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THIRTEENTH PARLIAMENT – SECOND SESSION – 2023

DEPARTMENTAL COMMITTEE ON ENERGY

REPORT ON THE STATUTE LAW (MISCELLANEOUS AMENDMENTS) BILL (NATIONAL ASSEMBLY BILL NO. 67 OF 2023)

 THE NATIONAL ASSEMBLY PAPERS Laid	
DATE: 15 FEB 2024	DAY: Thurs
TABLED BY:	Chairperson, Justice & Legal Affairs Hon-George Mwangi, MP
CLERK-AT THE-TABLE:	A. Shibusko

CLERK'S CHAMBERS
DIRECTORATE OF DEPARTMENTAL COMMITTEES
PARLIAMENT BUILDINGS
NAIROBI

DECEMBER, 2023

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CHAIRPERSON'S FOREWARD

This report details the consideration by the Departmental Committee Energy of the Statute Law (Miscellaneous Amendments) Bill (National Assembly Bill No. 67 of 2023). The Bill seeks to amend many laws among them **that seeks to amend the Energy Act, 2019** which is relevant to the Departmental Energy. The Bill in particular proposes several amendments to the Energy Act, 2019.

The Bill was published on 30th October, 2023 and read a First Time in the House on 15th November, 2023. It was thereafter committed to various Departmental Committees for consideration and reporting to the House pursuant to the provision of Standing Order 127.

Article 118(1) (b) of the Constitution and Standing Order 127(3) require Parliament to facilitate public participation and involvement in the legislative and other business of Parliament and its Committees. In compliance with the foregoing, through the placement of adverts in the print media on 18th November, 2022 (Annex 3), the National Assembly invited the public and interested stakeholders to submit memoranda on the proposed amendments. The Committee received written submissions on the proposed amendments to the said Act from the Ministry of Energy and Petroleum, Nuclear Power and Energy Agency (NUPEA) and the Institution of Engineers of Kenya (IEK).

The Committee thereafter held meetings where submissions were received and the presentations considered before adoption of this report.

Having considered the proposed amendments and based on analysis of submissions by the Ministry of Energy and Petroleum, Nuclear Power and Energy Agency and the Institution of Engineers of Kenya (IEK), the Committee made observations for each of the proposed amendments to the Energy Act, 2019 as contained in Part IV of this Report.

Having reviewed the proposed amendments to the Energy Act, 2019 as contained in the Statute Law (Miscellaneous Amendments) Bill (National Assembly Bill No. 67 of 2023), the Committee recommends:

1. **THAT** the proposed amendments to **the new section 6A and sections 26(4), 45(1), 82, 98(1)(d), 100(1)(b), 117, 129(2), 166(3), 166(4), 167(1), 187, 199(1) and 216(1)** relating to the Energy Act, 2019 be proceeded with as proposed;
2. **THAT** the proposed amendments to **sections 2, 10, 12(1)(e), 20(1), 20, 26(4), 45(1)(e), 76(2), 149(3), 154(2), 169(2) and 208** relating to the Energy Act, 2019 be amended as proposed in Part V of this Report.

Hon. Lemanken Aramat, M.P.
Departmental Committee on Energy

PART I

1.0 PREFACE

1.1 Introduction

1. This report details the consideration by the Departmental Committee on Energy of the Statute Law (Miscellaneous Amendments) Bill (National Assembly Bill No. 67 of 2023).
2. The Bill was published on 30th October, 2023 and read a First Time in the House on 15th December, 2022. It was thereafter committed to various Departmental Committees for consideration and reporting to the House pursuant to the provision of Standing Order 127. Specifically, the Committee considered amendments proposed to **the Energy Act, 2019**.

1.2 Mandate of the Committee

3. The Departmental Committee on Energy is established under the National Assembly Standing Order No. 216. The functions and mandate of the Committee include, among others, **“to study and review all legislation referred to it”**.
4. The subject matter of the Departmental Committee on Energy are stated in the Second Schedule of the National Assembly Standing Orders as follows: The Committee is mandated to consider matters relating to the Fossil Fuel Exploration, Development, Production, Maintenance and Regulation of Energy.

1.3 Oversight

5. In executing its mandate, the Committee oversees the following State Departments: The State Department for Energy and The State Department for Petroleum.

1.4 Committee Membership

6. The Departmental Committee on Energy was constituted by the House on 27th October, 2022 and comprises the following Members:

Chairperson

Hon. (Eng.) Vincent Musyoka Musau, MP
Mwala Constituency

United Democracy Alliance Party

Vice Chairperson

Hon. Lemanken Aramat, MP
Narok East Constituency

United Democracy Alliance Party

Members

The Hon. Charles Gimose, MP.
Hamisi Constituency

Amani National Congress Party

The Hon. Elisha Odhiambo, MP.
Gem Constituency

Orange Democratic Movement (ODM)

The Hon. Richard Chonga, MP.
Kilifi South Constituency

Orange Democratic Movement (ODM)

The Hon. Walter Owino, MP.
Awendo Constituency

Orange Democratic Movement (ODM)

The Hon. Musili Mawathe, MP.
Embakasi Constituency

Orange Democratic Movement (ODM)

The Hon. Simon King'ara, MP
Ruiru Constituency

United Democracy Alliance Party

The Hon. Tom Mboya Odege, MP.
Nyatike Constituency

Orange Democratic Movement (ODM)

The Hon. Augustine Kamande, MP
Roysambu Constituency

United Democracy Alliance Party

The Hon. Cecilia Ngiti, MP
Turkana County Women Representative

United Democracy Alliance Party

The Hon. Victor Koech, MP
Chepalungu Constituency

Chama Cha Mashinani (CCM)

The Hon. Geoffrey Mulanya, MP
Nambale Constituency

Independent Party

The Hon. Nolfason Obadiah, MP
Borabu Bomachoge Constituency

Orange Democratic Movement (ODM)

The Hon. George Aladwa, MP
Makadara Constituency

Orange Democratic Movement (ODM)

1.5 Committee Secretariat

7. The Committee is facilitated by the following staff:

Mr. Adan Gindicha

Principal Clerk Assistant II

Head of Secretariat

Ms. Mary Lemerelle
Clerk Assistant II

Mr. Salim Athuman
Clerk Assistant III

Ms. Brigitta Mati
Legal Counsel I

Mr. Brian Njeru
Fiscal Analyst III

Mr. Josphat Bundotich
Senior Serjeant-at-Arms

Ms. Lorraine Onyego
Legal Counsel II

Ms. Mercy Mayende
Media Relations Officer

Mr. Robert Langat
Research Officer III

PART II

2.0 OVERVIEW OF THE PROPOSED AMENDMENTS

11. The Statute Law (Miscellaneous Amendments) Bill (National Assembly Bill No. 67 of 2023), which was sponsored by the Leader of Majority Party, Hon. Kimani Ichung'wah, CBS, MP, was an Omnibus Bill which seeks to amend various statutes in keeping with the practice of making minor amendments which do not merit the publication of separate Bills. The Bill was published on 30th October, 2023 and read a First Time in the House on 15th November, 2023 and pursuant to Standing Order 127(1) committed to respective Departmental Committees of the National Assembly for consideration.
12. The Bill seeks to amend the following laws which are relevant to the Departmental Committee on Energy: **The Energy Act, 2019 (No. 1 of 2019)**
13. The Bill proposes to amend the Energy Act, 2019 to among other things:
 - i. Address the overlap in functions between the Energy and Petroleum Regulatory Authority and the Cabinet Secretary;
 - ii. Include Kenya Power and Lighting Company PLC and the Authority in the Membership of the Renewable Energy Resources Advisory Committee established under the Act; and
 - iii. Subject the making of regulations to the attainment by the grid of the quality and reliability of supply and service prescribed by the Energy and Petroleum Regulatory Authority.

CHAPTER 3

PART III

3.0 PUBLIC PARTICIPATION/STAKEHOLDERS CONSULTATION

14. Article 118(1) (b) of the Constitution and Standing Order 127(3) require Parliament to facilitate public participation and involvement in the legislative and other business of Parliament and its Committees. In compliance with the foregoing, the placement of advert in the print media on 18th November, 2023 (Annex 3), invited the public and interested stakeholders to submit memoranda on the proposed amendment. Three submissions were received from the Ministry of Energy & Petroleum, Nuclear Power and Energy Agency and from the Institute of Engineers of Kenya (IEK). (Annex 4).
15. The analysis of the submissions made by the Ministry of Energy and Petroleum, Nuclear Power and Energy Agency (NUPEA), Energy and Petroleum Regulatory Authority (EPRA) are contained in Part IV of this Chapter.

PART IV

3.1 ANALYSIS OF THE PROPOSED AMENDMENTS

16. The Bill in particular proposes several amendments to the Energy Act, 2019. The following is an analysis of the proposed amendments and the submissions made by the Ministry of Energy, Council of Governors and the Kenya Law Reform Commission for each of the proposed amendments:

Proposed amendment to section 2:

17. The Bill seeks to delete the definition of the term “distribution licence” and inserts the following new definition in proper alphabetical sequence—

“distribution licence” means a document or instrument authorising a person to distribute energy in the manner described in the document or instrument, in that person's authorised area of supply for the purpose of enabling supply to premises in that area and to also receive bulk supply from another licensee;

Submission by the Ministry of Energy and Petroleum

18. The proposed amendment seeks to retain the second definition, which is more comprehensive.

Committee's Observation

19. The definition of distribution licence appears twice in section 2 of the Act as follows:

distribution licence" means any document or instrument authorizing a person to operate a distribution system for the purpose of enabling supply of electrical energy to consumers or to other licensees;

"distribution licence", means any document or instrument authorizing a person to distribute energy in the manner described in such document or instrument in that person's authorised area of supply for the purpose of enabling supply to premises in that area and to also receive bulk supply from another licensee;

20. The application of the definition in the term "distribution of electricity" and in sections 139 and 140 of the Energy Act appear to refer to electrical energy and hence there is need to amend the definition to make reference to "electrical energy".

Proposed new section 6A

21. The Bill proposes to insert the following new section immediately after section 6—

National energy efficiency and conservation action plan

6A. The Cabinet Secretary, in consultation with the relevant statutory authorities and stakeholders, shall coordinate the development and implementation of a national energy efficiency and conservation action plan.

Submission by the Ministry of Energy and Petroleum

22. The role of coordinating and development of the national energy efficiency and conservation plan is presently under Energy and Petroleum Regulatory Authority (hereinafter referred to as "EPRA"). The amendment seeks to confer this role to the Cabinet Secretary. The role of the Ministry is policy and planning while the role of EPRA is regulation.

Committee's Observation

23. Section 10(z)(ll) confers upon EPRA the role of coordinating the development and implementation of a national energy efficiency and conservation action plan. There is need to amend section 10 to align the functions of EPRA with the new proposed amendment.

Proposed amendment to section 10

24. The Bill proposes to amend section 10 of the Energy Act as follows:
Delete the words "with the exception of crude oil" appearing in paragraph (a) (ii);
Delete paragraph (ii) and substitute therefor the following new paragraph—
(ii) make proposals to the Cabinet Secretary for purposes of making regulations on energy efficiency and conservation.

Submission by the Ministry of Energy and Petroleum

25. The proposal seeks to harmonize EPRA'S functions under 10(a)(ii) with other functions under section 10(b) to 10(aa). The amendment is not captured correctly, as it should read paragraph 10. (LL) and not 10. (ii). In addition, paragraph (LL) gives the Authority the role of coordinating the development and implementation of national energy efficiency plan and hence should be amended.

Committee's observations

26. Section 10(a) of the Act provides that the functions of the Authority shall be to—

(a) regulate—

(i) generation, importation, exportation, transmission, distribution, supply and use of electrical energy with the exception of licensing of nuclear facilities;

(ii) importation, refining, exportation, transportation, storage and sale of petroleum and petroleum products **with the exception of crude oil**;

27. The amendment seeks to allow EPRA to also regulate the importation, refining, exportation, transportation, storage of petroleum and petroleum products including crude oil.

28. The amendment to paragraph (ii) in relation to the energy efficiency and conservation does not appear in subparagraph (ii) but in subparagraph (II) which reads:

The functions of the Authority shall be to co-ordinate the development and implementation of a national energy efficiency and conservation action plan, in consultation with relevant statutory authorities and other stakeholders.

29. There is a need to amend section 10(z)(II) to align the amendment with the new proposed amendment to section 6A.

Proposed amendment to section 12(1)(e)

30. The Bill proposes to amend section 12 of the Energy Act by deleting paragraph (1)(e).

Submission by the Ministry of Energy and Petroleum

31. The amendment seeks to realign the membership of the EPRA board as guided by the principles of separation of powers noting EPRA is a national entity.

Submission by the Council of Governors

32. The Fourth Schedule bestows the function of planning and development including electricity and gas reticulation and energy to regulation to county governments. Section 222 of the Energy Act stipulates the functions of county governments to include energy planning, county energy planning and county energy operations and development and energy regulation.

33. The amendment takes away the representation of county governments yet counties play a major role in the energy sector. Article 6(2) of the Constitution requires both levels of government to conduct their mutual relations on the basis of consultation and cooperation.

Committee's Observations

34. Section 12 (1) of the Act provides that the Management of the Authority shall vest in the Board of Directors of the Authority consisting of—

(a) a Chairperson who shall be appointed by the President;

(b) the Principal Secretary responsible for Energy or his representative;

- (c) the Principal Secretary responsible for Petroleum or his representative;
- (d) the Principal Secretary in the National Treasury or his or her authorized representative;
- (e) **one County Executive Committee member responsible for energy and petroleum or his representative nominated by the Council of County Governors;**
- (f) the Director-General; and
- (g) five other members not being public officers appointed by the Cabinet Secretary.

- 35. The county governments have only one representative in the Board of EPRA while the national government has 10 representatives to the Board.
- 36. Pursuant to paragraph 31 of Part 1 and paragraph 8(e) of Part 2 of the Fourth Schedule to the Constitution, energy regulation falls under the concurrent jurisdiction of both levels of government.
- 37. The Fifth Schedule to the Act also provides for a detailed analysis of the distribution of the functions between the two arms of government.
- 38. The principle of separation of powers applies to the three arms of government and the two levels of government are governed by Article 6 of the Constitution. In this regard, the amendment does not accord with the Fourth Schedule to the Constitution and the Fifth Schedule to the Act which recognizes energy regulation as a function that falls within the concurrent jurisdiction of both levels of government.

Proposed amendment to section 20(1)

- 39. The Bill proposes to amend section 20(1) of the Energy Act by deleting the phrase “half of a” appearing in paragraph (a).

Submission by the Ministry of Energy and Petroleum

- 40. The amendment seeks to ensure that EPRA is adequately funded to enable it to meet all its responsibilities.

Submission by Energy and Petroleum Authority

- 41. The Authority cannot access any funding related to crude oil and natural gas at the moment. The Energy Act 2019 and the Petroleum Act 2019 bestowed the Authority with expanded mandate that requires significant investment in resources, both human and financial resources. This expanded mandate has necessitated the review of the levy from up to 0.5% to up to 1% as proposed. It is projected that the impact on the petroleum pump price and the electricity prices will be negligible when implemented. It is proposed that the amendment have an effective date of July 1st 2024 when it is expected that the prices in international markets will have decreased. There will be no levy at the time of passage of the amendment; the implementation will be gradual commencing the financial year 2024/2025.

Committee’s observations

- 42. Section 20(1) of the Act provides that the funds of the Authority shall consist of—

- (a) levies not exceeding one **half of a** percent on the sales of electricity and petroleum products;
43. The amendment seeks to increase the levies to 1% on the sales of electricity and petroleum products. The Committee observed that the amendment would overburden the tax payer.
44. In this regard, the Committee declined the proposal to increase the ceiling for collection of the levies to a figure not exceeding 1% of the sales of electricity and petroleum products.

Proposed amendment to section 20

45. The Bill seeks to amend section 20 of the Energy Act to delete the word “levies” appearing in the proviso.

Submission from the Ministry of Energy and Petroleum

46. The amendment seeks to exempt levies collected by EPRA from being paid into the Consolidated Fund in order to enhance EPRA’s effectiveness in discharging its functions.

Committee’s Observation

47. The amendment seeks to exempt levies collected by the Authority from being paid into the consolidated fund to the Authority directly. The Committee observed that whereas the amendment found its basis in Article 206 (1)(b) of the Constitution which provides that money may be excluded from the Consolidated Funds to allow a state organ to retain such funds for purposes of defraying the expenses of the state organ, the proposed amendment would negate the oversight role of the House and the Committee in determining budgetary allocations to be made to the Authority.
48. The Committee further noted that although EPRA had submitted that the current practice allowed the Authority to retain monies collected from levies and hence the amendment was attempting to align practice with the law, the Committee noted that the practice has no legal basis in terms of Article 206(1)(b) of the Constitution as read with section 20 of the Act. In this regard, the Committee observed that the amendment should be deleted. The Committee further proposed that the Act be amended to create clarity that all levies shall be paid into the Consolidated Fund hence subject to approval for budgetary allocations by the Committee.

Members of the Tribunal

49. The amendment seeks to insert the word “of” immediately after the word “terms”
(4) The Chairperson, Vice-Chairperson and members of the Tribunal shall be appointed at different times so that the respective expiry dates of their terms office shall fall at different times.

Committee’s Observation

50. The amendments is an editorial correction.

Proposed amendment to section 26(4)

51. The proposed amendment to section 26(4) of the Energy Act seeks to insert the word “of” immediately after the word “terms”.

Committee’s Observations

52. Section 26(4) of the Act provides that the Chairperson, Vice-Chairperson and members of the Tribunal shall be appointed at different times so that the respective expiry dates of their terms **of** office shall fall at different times.
53. The amendment is a grammatical correction.

Proposed amendment to section 45

54. The Bill seeks to amend section 45 of the Energy Act to delete the words “who shall be the Secretary to the Board” appearing in paragraph (d); delete the word “three” and substitute therefor the word “seven” and delete paragraph (f).

Submission by the Ministry of Energy and Petroleum

55. The amendment seeks to align the Board with Mwongozo, State Corporation Act and the Good Corporate Governance Practices on segregation of roles of the CEO and that of the Corporation Secretary.
56. The Rural Electrification and Renewable Energy Corporation is a national entity and its membership should be informed by principles of separation of powers.
57. The Cabinet Secretary only appoints three members to the Board while the county governments have a total of four Members yet the Board is a national entity in nature.
58. The Managing Director of Kenya Power should be part of RERAC which is an inter-ministerial advisory Committee. This is intended for value addition in the advisory role as these 2 entities play a critical role in the energy sector. Further, EPRA is a key stakeholder with regard to licensing.?
59. The Cabinet Secretary is to be vested with the prerogative to appoint 4 more members to the Board of REREC thus a total of 7.

Submission by the Council of Governors

60. The Council of Governors represents 47 county governments hence the need for adequate representation to safeguard the interests of counties.
61. Additionally, rural connectivity and renewable energy are primary functions of county governments.

Committee’s Observations

62. Section 45 (1) provides that the management of the Corporation shall vest in the Board of Directors of the Corporation which shall consist of—
- (a) a Chairperson appointed by the President;
 - (b) the Principal Secretary in the Ministry responsible for energy or his representative;
 - (c) the Principal Secretary in the National Treasury or his representative;
 - (d) the Chief Executive Officer **who shall be the Secretary to the Board;**
 - (e) **three** members appointed by the Cabinet Secretary; and
 - (f) **four other members appointed by the Council of County Governors.**
63. The county governments have four representatives in the Board while the national government has six representatives.

64. Pursuant to paragraph 31 of Part 1 and paragraph 8(e) of Part 2 of the Fourth Schedule to the Constitution, electricity and energy regulation falls under the concurrent jurisdiction of both levels of government.
65. The Fifth Schedule to the Act also provides for a detailed analysis of the distribution of the functions between the two arms of government.
66. The principle of separation of powers applies to the three arms of government and the two levels of government are governed by Article 6 of the Constitution. In this regard, the amendment does not accord with the Fourth Schedule to the Constitution and the Fifth Schedule to the Act which recognizes energy regulation as a function that falls within the concurrent jurisdiction of both levels of government.
67. However, noting the Board is a national entity responsible for the management of REREC, the representatives of the county governments should be reduced to three members while those of the national government should increase to four members.
68. The amendment to align the position of the Chief Executive Officer with the Mwongozo guidelines is in order.

Proposed amendment to section 76

69. The Bill proposes to amend section 76 of the Energy Act as follows:

Insert the following new paragraph immediately after paragraph (g)—

(h) the Managing Director of Kenya Power and Lighting Company PLC or his or her representative.

Submission by the Ministry of Energy and Petroleum

70. The proposal is intended to add value to the advisory role since the entity is in the energy sector.

Submission by the Council of Governors

71. The Fifth Schedule to the Energy Act requires the counties to establish energy centres for promotion of renewable energy technologies, energy efficiency and conservation in addition, the Fourth Schedule to the Constitution bestows the function of electricity and gas reticulation to county governments.
72. It is hence imperative that county governments are represented in the Renewable Energy Resource Advisory Committee as energy is a concurrent function.

Committee's Observations

73. Whereas the Committee notes that the Renewable Energy Resource Advisory Committee is an inter-ministerial Committee, there is need to amend the section to allow for representation of county governments in light of the provisions of the Fifth Schedule to the Act which allows the counties to deal with matters relating to renewable energy.
74. However, noting the Committee plays an advisory role, the Committee observed that there is need to ensure that the representative of the county governments to the Committee is a person who is suitably qualified and with the relevant expertise to play the advisory role. To this end, the Committee noted that the chairperson of the relevant Committee of the Council

of Governors which is responsible for matters relating to energy should be a member of the Advisory Committee.

Proposed amendment to section 82

75. The Bill proposes to amend section 82 of the Act to delete the word “Authority” and substitute therefor the expression “Renewable Energy Resource Advisory Committee”.

Submission by the Ministry of Energy and Petroleum

76. The proposed amendments seek to align the section with the role of the Renewable Energy Resource Advisory Committee.

Committee’s Observation

77. The amendment aligns with section 82(4) of the Act which provides that it is the role of Renewable Energy Resource Advisory Committee to advise the Cabinet Secretary on criteria for allocation of renewable energy resource and licensing of renewable energy resource areas, among other functions.

Proposed amendment to section 98(1)(d)

78. The proposed amendment to section 98(1)(d) of the Act seeks to insert the word “with” immediately after the word “compliance”.

Submission by the Ministry of Energy and Petroleum

79. The amendment is a grammatical correction.

Committee’s Observation

80. Section 98(1)(d) provides that the Authority shall, in granting or rejecting an application for a licence or permit, take into consideration compliance **with** this Act and the relevant Kenyan Standard and in the absence of such standard, any international standard recommended by the Authority in consultation with the Kenya Bureau of Standards. The proposed amendment is hence a grammatical correction.

Proposed amendment to section 100(1)(b)

81. The proposed amendment to section 100(1)(b) seeks to insert the word “of” immediately after the word “type”.

Submission by the Ministry of Energy and Petroleum

82. The amendment is a grammatical correction.

Committee’s Observation

83. Section 100(1)(b) of the Act provides that every licence or permit shall be in such form as the Authority may determine and shall, subject to subsection (2), contain such particulars or conditions where applicable the type **of** coal or coal products. The proposed amendment is hence a grammatical correction.

Proposed amendment to section 117

84. The Bill seeks to amend section 117 of the Act to delete the word “one” and substitute therefor the words “one half of a”.

Submission by the Ministry of Energy and Petroleum

85. The provision state that a person shall not require authorization to generate energy for own use for capacity not exceeding 1MW. There are many industry players and there is need to have an efficient energy planning framework coupled with monitoring.

Committee’s Observation

86. Section 117 of the Act provides that a person who wishes to carry out the generation, exportation, importation, transmission, distribution and retail supply of electricity must apply for a licence as the case may be to the Authority in accordance with the provisions of this Act:

Provided that a person shall not require any authorization to generate electrical energy for own use of a capacity not exceeding **one** megawatt. The amendment is in order as it seeks to create efficiency in energy generation and the licensing processes.

Proposed amendment to section 129(2)

87. The Bill seeks to amend section 129(2) of the Act to delete the word “three” and substitute therefor the word “four”.

Submission by the Ministry of Energy and Petroleum

88. The amendment provides for the submission of audited accounts of licensees to EPRA within 4 months. The amendment is in conformity with the Capital Markets Authority requirements.

Committee’s Observation

89. The amendment seeks to change the timeline for submission of audited accounts to a period within 4 months after the end of each financial year.

Proposed amendment to section 149(3)

90. The amendment seeks to amend section 149(3) of the Act to delete the word “licence” and substitute therefor the word “certificate”.

Submission by the Ministry of Energy and Petroleum

91. The Ministry proposes the withdrawal of the amendment to retain the term “licence” in line with the Kenya Accreditation Service Act, 2019.

Committee’s Observation

92. A licence is the instrument that confers power to persons to undertake certain functions and is subject to renewal. The amendment should therefore be deleted.

Proposed amendment to section 154(2)

93. The Bill proposes to amend section 154(2) of the Act to delete the word “meters” and substitute therefor the word “metres”.

Submission by the Ministry of Energy and Petroleum

94. The amendment is a spelling correction. Metres implies length as opposed to meter which is the gadget.

Committee's Observation

95. Section 154(2) of the Act is captured correctly. The proposed amendment is erroneous and should therefore be deleted.

Proposed amendment to section 166(3) and (4)

96. The Bill seeks to amend section 166 (3) and (4) by deleting and substituting therefor the following new subsections—

(3) For the avoidance of doubt, the licensee shall not be liable to any penalty under subsection (1) or to pay compensation under subsection (2) if the failure, poor quality or irregularity of electricity supply was caused by third party interference to the licensee's electricity supply lines, or by inevitable accident or force majeure, or was so slight as not to materially affect the quality or value of the supply.

(4) The Cabinet Secretary may make regulations to give effect to this section subject to the grid attaining the quality and reliability of supply and service as prescribed by the Authority.

Submission by the Ministry of Energy and Petroleum

97. The proposal is an enhancement of the current provision by including penalty under subsection (1). The amendment to subsection (4) proposes that the Cabinet Secretary may make regulations subject to the grid attaining the quality and reliability of supply and service as will be prescribed by the Authority. To achieve this, the Ministry notes that there is need to enhance resource allocations to improve the grid status as the country at the moment may not be able to accommodate these investments.

Committee's Observation

98. The amendment seeks to subject sub-section (1) to the proviso. The amendment also prescribes a conditional precedent for making regulations to give effect to the section which is pegged on the grid attaining quality and reliable supply. The amendment seeks to ensure that claims for compensation are based on direct actions or non-actions of the licensee.

Proposed amendment to section 167

99. The Bill seeks to amend section 67 by deleting the expression "(1)" and deleting the word "electrician" appearing in paragraph (o) and substituting therefor the words "electrical worker".

Submission by the Ministry of Energy and Petroleum

100. This is correction of a numerical error, as there are no other subsections. Further, electrical work can only be carried out by an electrical workers who have attained the requirement of section 149 electrical.

Committee's Observation

101. Section 149 of the Act recognizes the use of the term "electrical workers". The proposed amendment also seeks to correct an error in paragraphing.

Proposed amendment to section 169

102. The Bill proposes to amend section 169 by deleting and substituting therefor the following new subsection—

- (1) Any vessel that is used to convey the vandalized or **stolen equipment** or appliances referred to in subsection (1) shall be forfeited to the State.

Submission by the Ministry of Energy and Petroleum

103. The amendment seeks to enhance the provisions of section 169(2) to cure the gap under subsection (1) to include vehicles used to conveying stolen equipment.

Committee's Observation

104. The Committee observed that although the amendment sought to enhance the offence, the proposed amendment would lead to forfeiture of vessels whose owners may not have been involved in the commission of the offence or had knowledge of the commission of the offence in particular in cases where the vessels have been stolen. In this regard, the Committee observed that there was need to provide clarity by providing that the offence shall apply where an owner of a vessel or equipment knowingly or wilfully permits the use of his or her vessel or equipment to convey vandalised or stolen equipment or where an owner of a vessel or equipment knowingly or wilfully permits another person to use his or her vessel or equipment to convey vandalised or stolen equipment. Further, the Committee also observed that there was need to expand the scope of the offence to include equipment used to convey vandalised and stolen appliances. To this end, the Committee proposed an amendment to include reference to equipment used to convey vandalised or stolen equipment.

Proposed amendment to section 187

105. The amendment seeks to amend section 187 to delete the words "coordinate the development and implementation of a" and substitute therefor the words "develop and implement"

Submission by the Ministry of Energy and Petroleum

106. The role of coordinating and development of the national energy efficiency and conservation plan is presently under EPRA. The amendment seeks to confer this role to the Cabinet Secretary. The role of the Ministry is policy and planning while the role of EPRA is regulation.

Committee's Observation

107. The Committee is a consequential amendment to the proposed amendment in the new section 6A.

Proposed amendment to section 199

108. The proposed amendment seeks to amend section 199 of the Act to insert the word “*Gazette*” immediately after the words “by notification in the”.

Submission by the Ministry of Energy and Petroleum

109. The amendment is an editorial correction.

Committee’s Observation

110. The amendment is an editorial correction.

Proposed amendment to section 208

111. The amendment seeks to amend section 208 of the Act to delete the words “on the recommendation of” and substitute therefor the words “in consultation with”.

Submission by the Ministry of Energy and Petroleum

112. The provision empowers the Cabinet Secretary to make regulations with respect to the Act.

Committee’s Observation.

113. The proposed amendment shall weaken the role of EPRA in executing its functions in particular in making regulations on matters that fall under its mandate. The Committee proposed that the amendment be deleted.

Proposed amendment to section 216

114. The Bill seeks to amend section 216 to delete the word “Consolidated”.

Submission by the Ministry of Energy and Petroleum-

115. The provision intends to eliminate confusion between the Energy Fund and the Consolidated Fund established under the Constitution.

Committee’s Observation.

116. The proposed amendment seeks to create clarity and distinguish the Energy fund with the Consolidated Fund established under the Constitution.

PART IV

4.0 COMMITTEE OBSERVATIONS

Having considered the proposed amendments, the Committee observed **THAT**:

Proposed amendment to section 2

117. The definition of distribution licence appears twice in section 2 of the Energy Act (hereinafter referred to as the Act) and hence there is need to delete both definitions and substitute with a more comprehensive definition that aligns with section 139 of the Act.

Proposed new section 6A

118. Section 10(z)(II) confers upon EPRA the role of coordinating the development and implementation of a national energy efficiency and conservation action plan. There is to amend section 10 of the Act to align the functions of EPRA with the new proposed amendment.

Proposed amendment to section 9(1)

119. Section 9 of the Act deals with the establishment of EPRA. The section being proposed to be amended is in the Scrap Metal Act and hence it does not exist in the Energy Act. In this regard, the amendment should be deleted from the Bill.

Proposed amendment to section 10

- ~~120.~~ The amendment seeks to allow EPRA to also regulate the importation, refining, exportation, transportation, storage of petroleum and petroleum products including crude oil. The amendment to paragraph (ii) in relation to the energy efficiency and conservation does not appear in subparagraph (ii) but in subparagraph (II) which reads:

The functions of the Authority shall be to co-ordinate the development and implementation of a national energy efficiency and conservation action plan, in consultation with relevant statutory authorities and other stakeholders. There is need to amend section 10(z)(II) of the Act to align the amendment with the new proposed amendment to section 6A.

Proposed amendment to section 12(1)(e)

121. The county governments have only one representative in the Board of EPRA while the national government has 10 representatives to the Board. Pursuant to paragraph 31 of Part 1 and paragraph 8(e) of Part 2 of the Fourth Schedule to the Constitution, energy regulation falls under the concurrent jurisdiction of both levels of government. The Fifth Schedule to the Act also provides for a detailed analysis of the distribution of the functions between the two arms of government.
122. The principle of separation of powers applies to the three arms of government while the two levels of government are governed by Article 6 of the Constitution. In this regard, the amendment does not accord with the Fourth Schedule to the Constitution and the Fifth

Schedule to the Act which recognizes energy regulation as a function that falls within the concurrent jurisdiction of both levels of government. The amendment should hence be deleted.

Proposed amendment to section 20(1)

123. The amendment seeks to provide that levies not exceeding **one and a half** percent on the sales of electricity and petroleum products shall be part of the funds of EPRA. The Committee observed that the amendment would overburden the taxpayer. In this regard, the Committee declined the proposal to increase the ceiling for collection of the levies to a figure not exceeding one and a half of the sales of electricity and petroleum products.

Proposed amendment to section 20

124. The amendment seeks to exempt levies collected by the Authority from being paid into the consolidated fund to the Authority directly. The Committee observed that whereas the amendment found its basis in Article 206 (1)(b) of the Constitution which provides that money may be excluded from the Consolidated Funds to allow a state organ to retain such funds for purposes of defraying the expenses of the state organ, the proposed amendment would negate the oversight role of the House and the Committee in determining budgetary allocations to be made to the Authority.
125. The Committee further noted that although EPRA had submitted that the current practice allowed the Authority to retain monies collected from levies and hence the amendment was attempting to align practice with the law, the Committee noted that the practice has no legal basis in terms of Article 206(1)(b) of the Constitution as read with section 20 of the Act. In this regard, the Committee observed that the amendment should be deleted. The Committee further proposed that the Act be amended to create clarity that all levies shall be paid into the Consolidated Fund hence subject to approval for budgetary allocations by the Committee.

Proposed amendment to section 45

126. The county governments have four representatives in the Board of REREC while the national government has six representatives to the Board. Pursuant to paragraph 31 of Part 1 and paragraph 8(e) of Part 2 of the Fourth Schedule to the Constitution, electricity and energy regulation falls under the concurrent jurisdiction of both levels of government. The Fifth Schedule to the Act also provides for a detailed analysis of the distribution of the functions between the two arms of government.
127. Principle of separation of powers applies to the three arms of government while the two levels of government are governed by Article 6 of the Constitution. In this regard, the amendment does not accord with the Fourth Schedule to the Constitution and the Fifth Schedule to the Act which recognizes energy regulation as a function that falls within the concurrent jurisdiction of both levels of government. However, noting the Board is a national entity responsible for the management of REREC, the representatives of the county governments should be reduced to three members while those of the national government should increase to four members.

Proposed amendment to section 76

128. Despite the Renewable Energy Resource Advisory Committee being an inter-ministerial Committee, there is need to amend the section to allow for representation of county governments in light of the provisions of the Fifth Schedule to the Act which allows the counties to deal with matters relating to renewable energy. However, noting the Committee plays an advisory role, there is need to ensure that the representative from the county governments to the Committee is a person who is suitably qualified and with the relevant expertise to play the advisory role. To this end, the Committee noted that the chairperson of the relevant Committee of the Council Governments responsible for matters relating to energy should be a member of the Advisory Committee.
129. Counties play a critical role in energy regulation and hence including representatives of county governments to the Committee shall be value addition as it will enhance the capacity of the Advisory Committee to perform its functions effectively.

Proposed amendment to section 82

130. The amendment aligns with section 82(4) of the Act which provides that it is the role of Renewable Energy Resource Advisory Committee to advise the Cabinet Secretary on criteria for allocation of renewable energy resource and licensing of renewable energy resource areas, among other functions.

Proposed amendment to section 98(1)(d)

131. The proposed amendment is a grammatical correction.

Proposed amendment to section 100(1)(b)

132. The proposed amendment is a grammatical correction.

Proposed amendment to section 117

133. The amendment seeks to provide that a person who wishes to generate electrical energy for own use of a capacity not exceeding one half of a megawatt shall not be required to apply for a licence. The amendment is in order as it seeks to create efficiency in energy generation, increase energy generation to address the energy demands in the country and improve on the licensing processes.

Proposed amendment to section 129(2)

134. The amendment seeks to change the timeline for submission of audited accounts to a period of within 4 months after the end of each financial year.

Proposed amendment to section 149(3)

135. A license is the instrument that confers power to persons to undertake certain functions and is subject to renewal and hence the amendment should be deleted.

Proposed amendment to section 154(2)

136. Section 154(2) of the Act makes reference to meters which is the correct reference to the electric gadgets. In this regard, the amendment should be withdrawn.

Proposed amendment to section 166(3) and (4)

137. The amendment seeks to subject sub-section (1) to the proviso. The amendment also prescribes a conditional precedent for making regulations to give effect to the section which is pegged on the grid attaining quality and reliable supply. The amendment seeks to ensure that claims for compensation against KPLC are based on direct actions or non-actions of KPLC.

Proposed amendment to section 167

138. The proposed amendment is an editorial correction and is in line with section 149 of the Act which recognizes the use of the term “electrical workers”.

Proposed amendment to section 169

139. The Committee observed that although the amendment sought to enhance the offence of vandalism, the proposed amendment would lead to forfeiture of vessels whose owners may not have been involved in the commission of the offence or had knowledge of the commission of the offence in particular in cases where the vessels have been stolen. In this regard, the Committee observed that there was need to provide clarity by providing that the offence shall apply where an owner of a vessel or equipment knowingly or wilfully permits the use of his or her vessel or equipment to convey vandalised or stolen equipment or where an owner of a vessel or equipment knowingly or wilfully permits another person to use his or her vessel or equipment to convey vandalised or stolen equipment. Further, the Committee also observed that there was need to expand the scope of the offence to include equipment used to convey vandalised and stolen appliances. To this end, the Committee proposed an amendment to include reference to equipment used to convey vandalised or stolen equipment.

Proposed amendment to section 187

140. The amendment is a consequential amendment to the new section 6A which conferred the power to the Cabinet Secretary to coordinate the development and implementation of the national energy efficiency plan.

Proposed amendment to section 199

141. The proposed amendment seeks to amend section 199 of the Act to insert the word “*Gazette*” immediately after the words “by notification in the”. In this regard, the amendment seeks to create clarity that notification shall be done through the Kenya Gazette.

Proposed amendment to section 208

142. The proposed amendment shall weaken the role of EPRA in executing its functions in particular in making regulations on matters that fall under its mandate. The Committee proposed that the amendment be deleted.

Proposed amendment to section 216

143. The proposed amendment seeks to create clarity and distinguish the Energy fund with the Consolidated Fund established under the Constitution.

Other Proposed amendments

The Proposal to wind up Nuclear Power and Energy Agency (NUPEA) as captured in the Presidential Taskforce on the Power Purchase Agreements and as contained in the Memorandum of Objects and Reasons of the Statute Law (Miscellaneous Amendments) No.67 Bill, 2023.

Following the presentations by CS Justus Wabuyabo, the Acting Chief Executive Secretary of Nuclear Power and Energy Agency, on 1st December, 2023, the Committee made the following observations and recommendations:-

Observations

1. Nuclear Power and Energy Agency is a State Corporation established under the Energy Act, 2019. It is charged with the responsibility of promoting and implementing Kenya's Nuclear Power Programme, carrying out research and development for the energy sector.
2. Kenya has been a Member State of the International Atomic Energy Agency (IAEA) since 1965. This is United Nation's specialized agency responsible for safe, secure and peaceful use of nuclear technologies worldwide.
3. Kenya is implementing nuclear power programme infrastructure development based on the IAEA approach which considers development of nuclear infrastructure.
4. For the past ten years since inception, NUPEA has undertaken activities in the development of the 19 Major infrastructure issues for the nuclear programmes in Kenya for instance Kenya enacted a national nuclear law and created a Regulatory Body with clear responsibilities for Nuclear Safety, Security and Safeguards.

The Committee recommends that,

1. Nuclear Power and Energy Agency (NUPEA) should be adequately funded, and;
2. Nuclear Power and Energy Agency (NUPEA) should continue to discharge its mandate as stipulated in Section 56 (1) of the Energy Act, 2019

PART V

5.0 COMMITTEE RECOMMENDATIONS

Pursuant to Standing Order 127, the Committee recommends:

144. **THAT** the proposed amendments to **the new section 6A and sections 26(4), 45(1), 82, 98(1)(d), 100(1)(b), 117, 129(2), 166(3), 166(4), 167(1), 187, 199(1) and 216(1)** relating to the Energy Act, 2019 be proceeded with as proposed;
145. **THAT** the proposed amendments to **sections 2, 10, 12(1)(e), 20(1), 26(4), 45(1)(e), 76(2), 149(3), 154(2), 169(2) and 208** relating to the Energy Act, 2019 be amended accordingly; and
146. **THAT** in light of paragraph (2), the Schedule to the Bill be amended in the proposed amendments to the Energy Act, 2019—

- (a) **by deleting the proposed amendment to section 2 and substituting therefor the following new proposed amendment—**

s.2 Delete the definition of the terms “distribution licence” whenever they appear and substitute therefor the following new definition in its proper alphabetical sequence—

“distribution licence” means a document or instrument authorising a person to distribute electrical energy in the manner described in the document or instrument, in that person's authorised area of supply for the purpose of enabling supply to premises in that area and to also receive bulk supply from another licensee;

- (b) **by deleting the proposed amendment to section 10 and substituting therefor the following new proposed amendment—**

**s.10 Delete the words “with the exception of crude oil” appearing in paragraph (ii);
Delete paragraph (z)(II).**

- (c) **by deleting the proposed amendment to section 12(1)(e);**

- (d) **by deleting the proposed amendment to section 20 and substituting therefor the following new proposed amendment—**

s.20 Insert the words “referred to under subsection (1)(a)” immediately after the words “Authority including” appearing in the proviso;

- (e) by deleting the proposed amendment to section 20(1);
- (f) by deleting the word “seven” appearing in the proposed amendment to section 45(1)(e) and substituting therefor the word “four”;
- (g) by deleting the proposed amendment to section 45 and substituting therefor the following new proposed amendment —

s.45(1)(f) Delete the word “four” appearing in paragraph (f) and substitute therefor the word “three”;

- (h) by inserting the following new proposed amendment immediately after the proposed amendment to section 45—

s.76(1) Delete the words “an inter-ministerial” appearing in subsection (1) and substitute therefor the word “a”;

- (i) in the proposed amendment to section 76(2), by inserting the following new paragraph immediately after paragraph (h) —

“(i) the Chairperson of the relevant committee of the Council of Governors responsible for matters relating to energy;”

- (j) by deleting the proposed amendments to section 149(3);

- (k) by deleting the proposed amendments to section 154(2);

- (l) by deleting the proposed amendment to section 169(2) and substituting therefor the following new proposed amendment —

s.169(2) Delete and substitute therefor the following—

(2) Any vessel or equipment which is used to convey the vandalised or stolen equipment or appliances referred to in subsection (1) shall be forfeited to the State—

- (a) where an owner of the vessel or equipment knowingly or wilfully permits the use of his or her vessel or equipment to convey the vandalised or stolen equipment or appliances; and
- (b) where an owner of a vessel or equipment knowingly or wilfully permits another person to use his or her vessel or equipment to convey the vandalised or

stolen equipment or appliances.

(m) by deleting the proposed amendment to section 208.

Justifications for the amendments.

- (1) The amendment seeks to create clarity on the definition of the term distribution licence.
- (2) The amendment seeks to ensure that EPRA is adequately funded to perform its functions while at the same time ensuring that levies collected by the Authority are subject to approval for budgetary allocations by the Committee and the House in exercise of its oversight role.
- (3) The amendment to the offence on vandalism seeks to create clarity by ensuring that owners of vessels and equipments who have no knowledge of the commission of the offence of vandalism do not lose their vessels or equipments through forfeiture to the State.
- (4) The amendments seek to ensure that county governments are represented in the EPRA, REREC Boards and the Renewable Energy Resource Advisory Committee in line with the Fourth Schedule to the Constitution and the Fifth Schedule to the Energy Act.
- (5) The amendments seek to correct a grammatical error and create clarity.
- (6) The amendments seeks to ensure that EPRA as a regulator is able to make regulations on matters falling under its functions.

SIGNED:  DATE: 7th Dec 2023

HON. LEMANKEN ARAMAT, M.P.
VICE-CHAIRPERSON,

DEPARTMENTAL COMMITTEE ON ENERGY

THE NATIONAL ASSEMBLY PARRAMATTA	
DATE: 15 FEB 2023	
TABLED BY:	<i>George Munira</i> Chairperson, Finance & Legal Affairs
CLERK-AT-THE-TABLE:	<i>A. eluboko</i>

REPUBLIC OF KENYA



THE NATIONAL ASSEMBLY
THIRTEENTH PARLIAMENT

DEPARTMENTAL COMMITTEE ON ENERGY

MEMBERS' ATTENDANCE - ADOPTION LIST

Agenda: RETREAT ON CONSIDERATION OF STATUTE LAW, MISCELLANEOUS AMENDMENT BILL NO.67 OF 2023

DATE: 1/12/2023 VENUE: MACHAKOS COUNTY - PANARI HOTEL

	NAMES	SIGNATURE
1.	Hon. (Eng.) Vincent Musyoka, MP- Chairperson	
2.	Hon. Lemanken Aramat, MP- Vice Chairperson	
3.	Hon. Charles Gimose, M.P	
4.	Hon. Julius Musili Mawathe, MP	
5.	Hon. Richard Ken Chonga, MP	
6.	Hon. Walter Owino, M.P MP	
7.	Hon. Elisha Odhiambo, MP	
8.	Hon. Tom Mboya Odege, MP	
9.	Hon. Simon King'ara, MP	
10.	Hon. George Omera Aladwa, MP	
11.	Hon. Mwafrika Augustine Kamande, MP	
12.	Hon. Victor Koech Kipngetch, MP	
13.	Hon. Geoffrey Ekesa Mulanya, MP	
14.	Hon. Cecilia Asinyen Ngigit, MP	
15.	Hon. Barongo Nolfason Obadiah, MP	

Forwarded by:

Signed: Date: 5/12/2023

Mr. Adan Gindicha
Principal Clerk Assistant II – Lead Committee Clerk

Approved by:

Signed..... Date.....

Mr. Peter K. Chemweno,
Director
Directorate of Departmental Committees

MINUTES OF THE 87TH SITTING OF THE DEPARTMENTAL COMMITTEE ON ENERGY HELD ON WEDNESDAY 1ST DECEMBER, 2023 AT PANARI HOTEL AT 2.30PM.

PRESENT

1. The Hon. (Eng.) Vincent Musyoka Musau, MP -**Chairperson**
2. The Hon. Lemanken Aramat, MP-**Vice Chairperson**
3. The Hon. Charles Gimose, MP
4. The Hon. Walter Owino, MP
5. The Hon. Elisha Odhiambo, MP
6. The Hon. Tom Mboya Odege, MP
7. The Hon. Simon King'ara, MP
8. The Hon. Mwafrika Augustine Kamande, MP
9. The Hon. Geoffrey Ekesa Mulanya, MP
10. The Hon. Barongo Nolfason Obadiah, MP
11. The Hon. Cecilia Asinyen Ngitit, MP

APOLOGIES

1. The Hon. Julius Musili Mawathe, MP
2. The Hon. Richard Ken Chonga, MP
3. The Hon. George Aladwa Omwera, MP
4. The Hon. Victor Koech Kipnetich, MP

COMMITTEE SECRETARIAT

- | | | |
|-----------------------|---|-----------------------------|
| 1. Mr. Mary Lemerelle | - | Clerk Assistant II |
| 2. Mr. Salim Athuman | - | Clerk Assistant III |
| 3. Mr. Sidney Lugaga | - | Legal Counsel I |
| 4. Mr. Brian Njeru | - | Fiscal Analyst III |
| 5. Ms. Mercy Mayende | - | Media Relations Officer III |

AGENDA

1. Prayers
2. Preliminaries/Introductions
3. **ADOPTION OF THE STATUTE LAW MISCELLANEOUS AMENDMENTS NO.67 OF 2023**
4. Adjournment/ Date of the next meeting

MIN. NO. NA/ENERGY/2023/113: PRELIMINARIES

The meeting was called to order at 2.30pm and commenced with prayers by the Chairperson. Agenda of the meeting was noted as adoption of the Statute Law Miscellaneous Amendments No.67 Bill of 2023.

Having considered the proposed amendments, and from the analysis of submissions by various stakeholders, the Committee observed **THAT**:

Proposed amendment to section 2

14. The definition of distribution licence appears twice in section 2 of the Energy Act (hereinafter referred to as the Act) and hence there is need to delete both definitions and substitute with a more comprehensive definition that aligns with section 139 of the Act.

Proposed new section 6A

15. Section 10(z)(ll) confers upon EPRA the role of coordinating the development and implementation of a national energy efficiency and conservation action plan. There is to amend section 10 of the Act to align the functions of EPRA with the new proposed amendment.

Proposed amendment to section 9(1)

16. Section 9 of the Act deals with the establishment of EPRA. The section being proposed to be amended is in the Scrap Metal Act and hence it does not exist in the Energy Act. In this regard, the amendment should be deleted from the Bill.

Proposed amendment to section 10

- ~~17.~~ The amendment seeks to allow EPRA to also regulate the importation, refining, exportation, transportation, storage of petroleum and petroleum products including crude oil. The amendment to paragraph (ii) in relation to the energy efficiency and conservation does not appear in subparagraph (ii) but in subparagraph (ll) which reads:

The functions of the Authority shall be to co-ordinate the development and implementation of a national energy efficiency and conservation action plan, in consultation with relevant statutory authorities and other stakeholders. The is need to amend section 10(z)(ll) of the Act to align the amendment with the new proposed amendment to section 6A.

Proposed amendment to section 12(1)(e)

18. The county governments have only one representative in the Board of EPRA while the national government has 10 representatives to the Board. Pursuant to paragraph 31 of Part 1 and paragraph 8(e) of Part 2 of the Fourth Schedule to the Constitution, energy regulation falls under the concurrent jurisdiction of both levels of government. The Fifth Schedule to the Act also provides for a detailed analysis of the distribution of the functions between the two arms of government.
19. The principle of separation of powers applies to the three arms of government while the two levels of government are governed by Article 6 of the Constitution. In this regard, the amendment does not accord with the Fourth Schedule to the Constitution and the Fifth Schedule to the Act which recognizes energy regulation as a function that falls within the concurrent jurisdiction of both levels of government. The amendment should hence be deleted.

Proposed amendment to section 20(1)

20. The amendment seeks to provide that levies not exceeding **one and a half** percent on the sales of electricity and petroleum products shall be part of the funds of EPRA. The Committee observed that the amendment would overburden the taxpayer. In this regard, the Committee declined the proposal to increase the ceiling for collection of the levies to a figure not exceeding one and a half of the sales of electricity and petroleum products.

Proposed amendment to section 20

21. The amendment seeks to exempt levies collected by the Authority from being paid into the consolidated fund to the Authority directly. The Committee observed that whereas the amendment found its basis in Article 206 (1)(b) of the Constitution which provides that money may be excluded from the Consolidated Funds to allow a state organ to retain such funds for purposes of defraying the expenses of the state organ, the proposed amendment would negate the oversight role of the House and the Committee in determining budgetary allocations to be made to the Authority.
22. The Committee further noted that although EPRA had submitted that the current practice allowed the Authority to retain monies collected from levies and hence the amendment was attempting to align practice with the law, the Committee noted that the practice has no legal basis in terms of Article 206(1)(b) of the Constitution as read with section 20 of the Act. In this regard, the Committee observed that the amendment should be deleted. The Committee further proposed that the Act be amended to create clarity that all levies shall be paid into the Consolidated Fund hence subject to approval for budgetary allocations by the Committee.

Proposed amendment to section 45

23. The county governments have four representatives in the Board of REREC while the national government has six representatives to the Board. Pursuant to paragraph 31 of Part 1 and paragraph 8(e) of Part 2 of the Fourth Schedule to the Constitution, electricity and energy regulation falls under the concurrent jurisdiction of both levels of government. The Fifth Schedule to the Act also provides for a detailed analysis of the distribution of the functions between the two arms of government.
24. Principle of separation of powers applies to the three arms of government while the two levels of government are governed by Article 6 of the Constitution. In this regard, the amendment does not accord with the Fourth Schedule to the Constitution and the Fifth Schedule to the Act which recognizes energy regulation as a function that falls within the concurrent jurisdiction of both levels of government. However, noting the Board is a national entity responsible for the management of REREC, the representatives of the county governments should be reduced to three members while those of the national government should increase to four members.

Proposed amendment to section 76

25. Despite the Renewable Energy Resource Advisory Committee being an inter-ministerial Committee, there is need to amend the section to allow for representation of county governments in light of the provisions of the Fifth Schedule to the Act which allows the counties to deal with matters relating to renewable energy. However, noting the Committee plays an advisory role, there is need to ensure that the representative from the county governments to the Committee is a person who is suitably qualified and with the relevant expertise to play the advisory role. To this end, the Committee noted that the chairperson of the relevant Committee of the Council Governments responsible for matters relating to energy should be a member of the Advisory Committee.
26. Counties play a critical role in energy regulation and hence including representatives of county governments to the Committee shall be value addition as it will enhance the capacity of the Advisory Committee to perform its functions effectively.

Proposed amendment to section 82

27. The amendment aligns with section 82(4) of the Act which provides that it is the role of Renewable Energy Resource Advisory Committee to advise the Cabinet Secretary on criteria for allocation of renewable energy resource and licensing of renewable energy resource areas, among other functions.

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28. The proposed amendment is a grammatical correction.

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30. The amendment seeks to provide that a person who wishes to generate electrical energy for own use of a capacity not exceeding one half of a megawatt shall not be required to apply for a licence. The amendment is in order as it seeks to create efficiency in energy generation, increase energy generation to address the energy demands in the country and improve on the licensing processes.

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31. The amendment seeks to change the timeline for submission of audited accounts to a period of within 4 months after the end of each financial year.

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32. A license is the instrument that confers power to persons to undertake certain functions and is subject to renewal and hence the amendment should be deleted.

Proposed amendment to section 154(2)

33. Section 154(2) of the Act makes reference to meters which is the correct reference to the electric gadgets. In this regard, the amendment should be withdrawn.

Proposed amendment to section 166(3) and (4)

34. The amendment seeks to subject sub-section (1) to the proviso. The amendment also prescribes a conditional precedent for making regulations to give effect to the section which is pegged on the grid attaining quality and reliable supply. The amendment seeks to ensure that claims for compensation against KPLC are based on direct actions or non-actions of KPLC.

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35. The proposed amendment is an editorial correction and is in line with section 149 of the Act which recognizes the use of the term "electrical workers".

Proposed amendment to section 169

36. The Committee observed that although the amendment sought to enhance the offence of vandalism, the proposed amendment would lead to forfeiture of vessels whose owners may not have been involved in the commission of the offence or had knowledge of the commission of the offence in particular in cases where the vessels have been stolen. In this regard, the Committee observed that there was need to provide clarity by providing that the offence shall apply where an owner of a vessel or equipment knowingly or wilfully permits the use of his or her vessel or equipment to convey vandalised or stolen equipment or where an owner of a vessel or equipment knowingly or wilfully permits another person to use his or her vessel or equipment to convey vandalised or stolen equipment. Further, the Committee also observed that there was need to expand the scope of the offence to include equipment used to convey vandalised and stolen appliances. To this end, the Committee proposed an amendment to include reference to equipment used to convey vandalised or stolen equipment.

Proposed amendment to section 187

37. The amendment is a consequential amendment to the new section 6A which conferred the power to the Cabinet Secretary to coordinate the development and implementation of the national energy efficiency plan.

Proposed amendment to section 199

38. The proposed amendment seeks to amend section 199 of the Act to insert the word “*Gazette*” immediately after the words “by notification in the”. In this regard, the amendment seeks to create clarity that notification shall be done through the Kenya Gazette.

Proposed amendment to section 208

39. The proposed amendment shall weaken the role of EPRA in executing its functions in particular in making regulations on matters that fall under its mandate. The Committee proposed that the amendment be deleted.

Proposed amendment to section 216

40. The proposed amendment seeks to create clarity and distinguish the Energy fund with the Consolidated Fund established under the Constitution.

Other Proposed amendments

The Proposal to wind up Nuclear Power and Energy Agency (NUPEA) as captured in the Presidential Taskforce on the Power Purchase Agreements and as contained in the Memorandum of Objects and Reasons of the Statute Law (Miscellaneous Amendments) No.67 Bill, 2023.

Following the presentations by CS Justus Wabuyabo, the Acting Chief Executive Secretary of Nuclear Power and Energy Agency, on 1st December, 2023, the Committee made the following observations and recommendations:-

Observations

1. Nuclear Power and Energy Agency is a State Corporation established under the Energy Act, 2019. It is charged with the responsibility of promoting and implementing Kenya’s Nuclear Power Programme, carrying out research and development for the energy sector.
2. Kenya has been a Member State of the International Atomic Energy Agency (IAEA) since 1965. This is United Nation’s specialized agency responsible for safe, secure and peaceful use of nuclear technologies worldwide.
3. Kenya is implementing nuclear power programme infrastructure development based on the IAEA approach which considers development of nuclear infrastructure.
4. For the past ten years since inception, NUPEA has undertaken activities in the development of the 19 Major infrastructure issues for the nuclear programmes in Kenya for instance Kenya enacted a national nuclear law and created a Regulatory Body with clear responsibilities for Nuclear Safety, Security and Safeguards.

The Committee recommends that,

1. Nuclear Power and Energy Agency (NUPEA) should be adequately funded, and;
2. Nuclear Power and Energy Agency (NUPEA) should continue to discharge its mandate as stipulated in Section 56 (1) of the Energy Act, 2019

MIN. NO. NA/ENERGY/2023/115: COMMITTEE RECOMMENDATIONS

The Committee made the following recommendations:-

144. **THAT** the proposed amendments to **the new section 6A and sections 26(4), 45(1), 82, 98(1)(d), 100(1)(b), 117, 129(2), 166(3), 166(4), 167(1), 187, 199(1) and 216(1)** relating to the Energy Act, 2019 be proceeded with as proposed;
145. **THAT** the proposed amendments to **sections 2, 10, 12(1)(e), 20(1), 26(4), 45(1)(e), 76(2), 149(3), 154(2), 169(2) and 208** relating to the Energy Act, 2019 be amended accordingly; and
146. **THAT** in light of paragraph (2), the Schedule to the Bill be amended in the proposed amendments to the Energy Act, 2019—

(a) by deleting the proposed amendment to section 2 and substituting therefor the following new proposed amendment—

s.2 Delete the definition of the terms “distribution licence” whenever they appear and substitute therefor the following new definition in its proper alphabetical sequence—

“distribution licence” means a document or instrument authorising a person to distribute electrical energy in the manner described in the document or instrument, in that person's authorised area of supply for the purpose of enabling supply to premises in that area and to also receive bulk supply from another licensee;

(b) by deleting the proposed amendment to section 10 and substituting therefor the following new proposed amendment—

s.10 Delete the words “with the exception of crude oil” appearing in paragraph (ii);
Delete paragraph (z)(II).

(c) by deleting the proposed amendment to section 12(1)(e);

(d) by deleting the proposed amendment to section 20 and substituting therefor the following new proposed amendment—

s.20 Insert the words “referred to under subsection (1)(a)” immediately after the words “Authority including” appearing in the proviso;



- (e) by deleting the proposed amendment to section 20(1);
- (f) by deleting the word “seven” appearing in the proposed amendment to section 45(1)(e) and substituting therefor the word “four”;
- (g) by deleting the proposed amendment to section 45 and substituting therefor the following new proposed amendment —
s.45(1)(f) Delete the word “four” appearing in paragraph (f) and substitute therefor the word “three”;
- (h) by inserting the following new proposed amendment immediately after the proposed amendment to section 45—
s.76(1) Delete the words “an inter-ministerial” appearing in subsection (1) and substitute therefor the word “a”;
- (i) in the proposed amendment to section 76(2), by inserting the following new paragraph immediately after paragraph (h) —
“(i) the Chairperson of the relevant committee of the Council of Governors responsible for matters relating to energy;”
- (j) by deleting the proposed amendments to section 149(3);
- (k) by deleting the proposed amendments to section 154(2);
- (l) by deleting the proposed amendment to section 169(2) and substituting therefor the following new proposed amendment —
s.169(2) Delete and substitute therefor the following—
(2) Any vessel or equipment which is used to convey the vandalised or stolen equipment or appliances referred to in subsection (1) shall be forfeited to the State—
(a) where an owner of the vessel or equipment knowingly or wilfully permits the use of his or her vessel or equipment to convey the vandalised or stolen equipment or appliances; and
(b) where an owner of a vessel or equipment knowingly or wilfully permits another person to use his or her vessel or equipment to convey the vandalised or stolen equipment or appliances.
- (m) by deleting the proposed amendment to section 208.

Justifications for the amendments.

- (1) The amendment seeks to create clarity on the definition of the term distribution licence.
- (2) The amendment seeks to ensure that EPRA is adequately funded to perform its functions while at the same time ensuring that levies collected by the Authority are subject to approval for budgetary allocations by the Committee and the House in exercise of its oversight role.
- (3) The amendment to the offence on vandalism seeks to create clarity by ensuring that owners of vessels and equipments who have no knowledge of the commission of the offence of vandalism do not lose their vessels or equipments through forfeiture to the State.
- (4) The amendments seek to ensure that county governments are represented in the EPRA, REREC Boards and the Renewable Energy Resource Advisory Committee in line with the Fourth Schedule to the Constitution and the Fifth Schedule to the Energy Act.
- (5) The amendments seek to correct a grammatical error and create clarity.
- (6) The amendments seeks to ensure that EPRA as a regulator is able to make regulations on matters falling under its functions.

MIN. NO. NA/ENERGY/2023/116 ADJOURNMENT

There being no other business, the meeting was adjourned at half past four o'clock.

SIGNED.......... DATE .....
(VICE-CHAIRPERSON)

Defence to draw strategy



General Francis Ogolla (left) and National Security Adviser Ahmed Farah. [Kipsang Joseph, Standard]

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The President described the inaugural graduation at NDU-K as a milestone for Kenya and other countries with which Kenya collaborates on security matters.

Defence CS Aden Duale hailed the NDU-K, saying that it provides a platform for international collaboration to develop solutions to global challenges.

"This key milestone is a multisectoral platform for dialogue and exchange to find solutions to contemporary and emerging challenges," said Duale.

Education CS Ezekiel Machogu said the multisectoral collaboration between various ministries and government agencies would go a long way in the realisation of national aspirations.

"It is also our call that universities be creative in coming up with revenue streams of their own to complement the little that the government has allocated to them," said Machogu.

The pioneer class of NDU-K consists of military, police, and civilians drawn from various government entities, as well as military officers from other countries including India, Nepal, South Africa, Malawi, Uganda, Egypt, and South Sudan among others.

knachuhi@standardmedia.co.ke

REPUBLIC OF KENYA
THE NATIONAL ASSEMBLY
THIRTEENTH PARLIAMENT-SECOND SESSION (2023)

IN THE MATTER OF ARTICLE 118(1)(b) OF THE CONSTITUTION
AND
IN THE MATTER OF CONSIDERATION BY THE NATIONAL ASSEMBLY OF THE STATUTE LAW (MISCELLANEOUS AMENDMENTS) BILL (NATIONAL ASSEMBLY BILLS NO. 67 OF 2023)

INVITATION TO SUBMIT MEMORANDA

WHEREAS, Article 118(1)(b) of the Constitution requires Parliament to facilitate public participation and involvement in the legislative and other business of Parliament and its Committees and Standing Order 127(3) of the National Assembly Standing Orders requires House Committees considering Bills to facilitate public participation;

AND WHEREAS, the Statute Law (Miscellaneous Amendments) Bill (National Assembly Bills No. 67 of 2023) was read a First Time on Wednesday 15th November, 2023 and thereafter referred to the relevant Departmental Committees for consideration and reporting to the House;

IT IS NOTIFIED that the Statute Law (Miscellaneous Amendments) Bill (National Assembly Bills No. 67 of 2023) sponsored by the Leader of the Majority Party, the Hon. Kimani Ichung'wah, MP seeks to make amendments to various statutes in keeping with the practice of making amendments that do not merit the publication of separate Bills into one Bill. The Bill contains proposed amendments to the following statutes—

(1) **The Children Act, 2022 (No. 29 of 2022)**
The Bill proposes to amend the Children Act, 2022 to repeal section 186(4) in compliance with Court decision in Adoption Cause E004 of 2022 *Re Baby M* where the court held the section that prohibits adoption by a sole male to be unconstitutional.

(2) **The Copyright Act, 2001 (No. 12 of 2001)**
The Bill proposes to amend the Copyright Act, 2001 to make provisions for the equitable remuneration of performers and producers of sound recordings and expand the responsibilities of collective management organizations towards the authors and performers. It also proposes to bring collective management organizations under regulation by the Board in order to enhance their efficiency.

(3) **The Scrap Metal Act, 2015 (No. 1 of 2015)**
The Bill proposes to amend the Scrap Metal Act, 2015 to provide for a special license for dealing in copper, aluminum, and their alloys to protect critical infrastructure. Additionally, the Bill proposes to restrict the disposal of scrap metal from critical infrastructure to the Numerical Machining Complex and the Kenya Shipyard Limited; the regulation of imports and exports; and enhancement of penalties in the Act to deter vandalism and other prohibited acts.

(4) **The National Employment Authority Act, 2016 (No. 3 of 2016)**
The Bill proposes to amend the National Employment Authority Act, 2016 to cure inconsistencies in the Act and align it with the National Employment Authority Human Resources policy and procedures Manual.

(5) **The Fisheries Management and Development Act, 2016 (No. 35 of 2016)**
The Bill proposes to amend the Fisheries Management and Development Act, 2016 to provide that the Cabinet Secretary responsible for matters relating to fisheries shall be the chairperson of the Kenya Fisheries Advisory Council.

(6) **The Energy Act, 2019 (No. 1 of 2019)**
The Bill proposes to amend the Energy Act, 2015 to give effect to recommendations of the Presidential Taskforce on the Review of Power Purchase Agreements to, among others, the overlap in functions between the Energy and Petroleum Regulatory Authority and the Ministry of Energy; add the Kenya Power and Lighting Company to the membership of the Rural Electrification and Renewable Energy Corporation; wind up the Nuclear Power and Energy Agency; and subject the making of regulations to the attainment by the grid of the quality and reliability of supply and service prescribed by the Energy and Petroleum Regulatory Authority.

(7) **The Public Private Partnerships Act, 2021 (No. 14 of 2021)**
The Bill proposes to amend the Public Private Partnerships Act, 2021 to correct typographical and cross-referencing errors contained in the Act, and to align provisions with each other to ensure consistency.

(8) **The Parliamentary Service Act, 2019 (No. 22 of 2019)**
The Bill proposes to amend the Parliamentary Service Act, 2019 to specify the nature of the further functions that may be performed by the Parliamentary Service Commission, as provided for in Article 127(6)(e) and Article 252(1)(d) of the Constitution.

(9) **The Judicial Service Act, 2011 (No. 1 of 2011)**
The Bill proposes to amend the Judicial Service Act, 2011 to provide for the facilitative mandate of the Judicial Service Commission under Articles 172(1)(b) and 252(1)(d) of the Constitution.

NOW THEREFORE, in compliance with Article 118(1)(b) of the Constitution and Standing Order 127(3), the Clerk of the National Assembly hereby invites the public and stakeholders to submit memoranda on the Bill for consideration by the respective Departmental Committees of the National Assembly set out in the schedule below—

ACT PROPOSED FOR AMENDMENT	COMMITTEE
The Children Act, 2022 (No. 29 of 2022)	Social Protection
The Copyright Act, 2001 (No. 12 of 2001)	Communication Information and Innovation
The Scrap Metal Act, 2015 (No. 1 of 2015)	Trade, Industries and Cooperatives
The National Employment Authority Act, 2016 (No. 3 of 2016)	Labour
The Fisheries Management and Development Act, 2016 (No. 35 of 2016)	Blue Economy, Water and Irrigation
The Energy Act, 2019 (No. 1 of 2019)	Energy
The Public Private Partnerships Act, 2021 (No. 14 of 2021)	Finance and National Planning
1. The Parliamentary Service Act, 2019 (No. 22 of 2019)	Justice and Legal Affairs
2. The Judicial Service Act, 2011 (No. 1 of 2011)	

Copies of the Bill are available at the National Assembly Table Office, Main Parliament Buildings and on www.parliament.go.ke/the-national-assembly/house-business/bills.

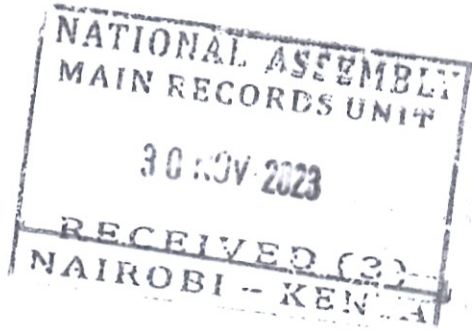
The memoranda may be forwarded to the Clerk of the National Assembly, P.O. Box 41042-00100, Nairobi; hand-delivered to the Office of the Clerk, Main Parliament Buildings, Nairobi; or emailed to cna@parliament.go.ke to be received on or before Thursday 30th November, 2023 at 5.00 p.m.

S. NJOROGE
CLERK OF THE NATIONAL ASSEMBLY
17th November, 2023

"For the Welfare of Society and the Just Government of the People"



**REPUBLIC OF KENYA
MINISTRY OF ENERGY AND PETROLEUM
STATE DEPARTMENT FOR ENERGY**



Telegrams: "MINPOWER"
Telephone: +254-20-4841000
Fax: +254-20-228314
Email: psenergy@energy.go.ke
When replying please quote

OFFICE OF THE
PRINCIPAL SECRETARY
KAWI COMPLEX, SOUTH C
P. O. Box 30582
NAIROBI

Ref. No. MOE/CONF/3/11

29th November, 2023

Mr. Samuel Njoroge
Clerk of the National Assembly
P.O Box 41842-00100
NAIROBI

Dear Clerk of the M.A,

RE: MEMORANDUM TO THE NATIONAL ASSEMBLY ON THE STATUTE LAW (MISCELLANEOUS AMENDMENTS), BILL (NATIONAL ASSEMBLY BILL NO. 67 OF 2023)

Reference is made to the publication by the Saturday Nation on 18th November 2023 inviting the public and stakeholders to submit memoranda on the matter of consideration by the National Assembly on the Statute Law (Miscellaneous Amendments), Bill (National Assembly Bill no. 67 of 2023).

The Statute Law (Miscellaneous Amendments), Bill on the proposed amendment to the Energy Act, 2019 (No.1 of 2019) in the memorandum of objects and reasons section outlines the winding up of the Nuclear Power and Energy Agency and transfers its function to the Ministry as captured in the recommendation of the Presidential Taskforce on the Power Purchase Agreements.

The position of the Ministry of Energy & Petroleum is that Nuclear Power and Energy Agency should not be wound up and should be adequately funded to discharge its mandate as prescribed in the Energy Act 2019. This will ensure that the nuclear power programme is implemented in line with international best practice and the coordination of energy research and development in the energy and petroleum sectors is effectively undertaken. The Ministry of Energy & Petroleum will continue to discharge its policy guidance mandate to the entities in the energy and petroleum sectors. This

is in line with Executive Order No. 2 of 2023 - Organization of the Government of the Republic of Kenya which placed the Nuclear Power and Energy Agency as an Institution under the Ministry of Energy & Petroleum.

Kindly find herewith the Memorandum by the Ministry of Energy & Petroleum for National Assembly on the subject for consideration by the National Assembly.



Alex Wachira
PRINCIPAL SECRETARY

Encls:

Copy to: Mr. Davis Chirchir
Cabinet Secretary
Ministry of Energy and Petroleum
NAIROBI

CS Justus A. Wabuyabo, LL.M (UoN)
Ag. Chief Executive Officer
Nuclear Power & Energy Agency
NAIROBI



MINISTRY OF ENERGY AND PETROLEUM

**MEMORANDUM BY THE MINISTRY OF ENERGY & PETROLEUM
MEMORANDUM TO THE NATIONAL ASSEMBLY ON THE STATUTE
LAW (MISCELLANEOUS AMENDMENTS), BILL (NATIONAL ASSEMBLY
BILL NO. 67 OF 2023)**

PURPOSE

The purpose of the memorandum is to present to the National Assembly (Thirteenth Parliament Second Session) (2023) a Memorandum by the Ministry of Energy & Petroleum on the memorandum of objects and reasons on the proposed amendment to the Energy Act, 2019 (No.1 of 2019) on the proposal of the winding up of the Nuclear Power and Energy Agency as captured in the recommendations of the Presidential Taskforce on the Power Purchase Agreements.

INTRODUCTION

The Ministry of Energy and Petroleum is charged with the mandate to develop and implement policies that create an enabling environment for efficient operation and growth of Kenya's energy sector. The Ministry sets strategic directions to facilitate the growth of the sector while providing long term vision for all sector players in the Generation, Transmission and

Distribution of affordable, clean and stable electricity to spur socio-economic development in the Country. The Executive Order No. 2 of 2023 – Organization of the Government of the Republic of Kenya placed the Nuclear Power and Energy Agency as an Institution under the Ministry.

BACKGROUND

The Memorandum of Objects and Reasons to the Statute Law (Miscellaneous Amendments) Bill, 2023 has proposed the winding up of the Nuclear Power and Energy Agency (NuPEA) and transferring its functions to the Ministry. Notably, the proposed amendment is not contained within the text of the Miscellaneous Amendments Bill 2023.

As a Ministry, we have taken note of the comments that the Departmental Committee on Energy made with regard to the status of NuPEA during our engagement on 3rd June, 2022, especially so with regard to its place in the future energy mix and are similarly strongly opposed to its winding up.

NuPEA was formed as a result of a recommendation in 2010 by the National Economic & Social Council (NESEC) for the introduction of nuclear power to meet future electricity demand. The programme was established as a Vision 2030 flagship project. The nuclear power option was also integrated in the national energy plan - the Least Cost Power Development Plan.

In November, 2010, the Nuclear Electricity Project Committee (NEPC) was established under the Ministry of Energy (MoE) to drive the nuclear energy generation programme for Kenya. NEPC was later transformed to Kenya

Nuclear Electricity Board (KNEB) vide Gazette Notice No. 131, supplement 156 of 23rd November, 2012. The mandate of KNEB was to fast-track the development and implementation of the nuclear power programme in order to enhance the production of affordable and reliable electricity generation in Kenya.

Through the Energy Act, 2019, KNEB was transformed to the Nuclear Power and Energy Agency (NuPEA) which is a State Corporation under the Ministry of Energy & Petroleum. The Act expanded the Agency's mandate to include promoting and implementing Kenya's Nuclear Power Programme, carrying out research and development, and capacity building in the energy sector.

NuPEA's mandate as stipulated in Section 56(1) of the Energy Act, 2019, are to:

- (a) Be the nuclear energy programme implementing organization and promote the development of nuclear electricity generation in Kenya.
- (b) Coordinate the implementation of research, development and dissemination in the energy and petroleum sectors, and;
- (c) Coordinate the implementation of capacity building activities in the energy and petroleum sectors.

Since inception, NuPEA has undertaken activities in the development of the 19 major infrastructure issues for the nuclear power programme for Kenya. The implementation of a nuclear power programme is an intensive exercise which requires long term planning. The Agency undertook a Pre-feasibility study for the nuclear power programme - the anchor document adopted towards a technical decision for the country to proceed with the nuclear

power program, and further, developed a 15-year roadmap to guide in the development of nuclear infrastructure issues and address the gaps identified in the pre-feasibility study report.

The progress of nuclear infrastructure development for completion of Phase 1 of the International Atomic Energy Agency (IAEA) milestone approach was evaluated by an IAEA Integrated Nuclear Infrastructure Review (INIR) Mission in 2015 and a Follow-Up INIR Mission in 2021. The independent international expert review outcome indicated that significant progress has been made in the development of nuclear infrastructure, thus enabling the country to progress to Phase II after successful attainment of Milestone 1 of nuclear power programme development. It was further noted, that any country embarking on the deployment of a Nuclear Power Plant is required to establish a Nuclear Energy Program Implementation Organization (NEPIO) to coordinate all activities related to the 19 nuclear infrastructure issues.

Significant strides have been made in building a nuclear-dedicated human capacity which has ably and diligently progressed the program with the IAEA's guidance. Abolishment of the Agency would significantly slow down the momentum of the programme.

Beyond the Nuclear Power Programme which is long term, NuPEA also acts as the country's National Liason Office (NLO). The NLO is charged with the duty of managing, coordinating and implementing IAEA sponsored projects and programmes in all fields of peaceful uses of nuclear science and technology in Kenya.

NLO plays a pivotal role in ensuring optimal performance of the IAEA technical cooperation programme towards implementation of three of the five sectors that form the core pillars of the Bottom Up Economic Transformation Agenda (BETA). Additionally, other sectors of the economy benefit from NuPEA's efficient coordination of nuclear energy applications in the country;

- a) In Human Health, NuPEA has supported the building of infrastructure and capacity building for cancer diagnosis and treatment through establishment of cancer centers in four national referral hospitals
- b) In agriculture, NuPEA has facilitated research into production of varieties of seeds that can withstand drought and diseases and produce high yields. Additionally, improved animal forage has been produced to enhance production of beef and milk;
- c) The Micro, Small and Medium Enterprise (MSME) economy will be positively impacted by implementation of the nuclear power plant project through the numerous opportunities that will be provided for both large and MSMEs that will possess capabilities that meet nuclear requirements to supply the required goods and services. Local suppliers including engineering companies; manufacturing companies; civil construction and system assembly companies; services; and operation and maintenance companies will be involved during the construction and commissioning of the nuclear power plant and the plant operation phase.
- d) In manufacturing, NuPEA has facilitated the establishment of a second dosimetry laboratory at the Kenya Bureau of Standards

(KEBS) and calibration improvement to meet international standards in industry.

- e) Water Resource Management has also been improved through introduction of nuclear techniques in mapping of water resources to improve water management in the country. All these projects are geared towards achieving national development objectives through peaceful application of nuclear technology.
- f) NuPEA is coordinating the development of the Kenya Nuclear Research Reactor (KNRR) project in Konza Technopolis. The project is envisaged to accelerate economic development and improve quality of life through the application of nuclear energy technology in scientific research, industry and healthcare as outlined under BETA. The KNRR has wide applications in education and training, health, industry, energy, and research. The main utilizations envisaged include: enhancing national research and development capabilities and intergovernmental collaborations; improving and encouraging industrial competitiveness; enhancing material structure study for various applications; production of radioisotopes for medical and industrial applications; improving calibration and testing services for industrial and medical instruments; and education and training of students and staff of various institutions.

NuPEA, being the Nuclear Energy Programme Implementing Organization (NEPIO), has an important role to play in attainment of Vision 2030 aspirations by enhancing access to clean, affordable, reliable and efficient energy in the country. Within the Vision 2030, energy is recognized as a key enabler to the implementation of the flagship projects which will lead

to increased power demand. NuPEA is also expected to play a critical role in accelerating economic development by raising productivity and efficiency levels across the three pillars through coordination of research and development (R&D) and capacity building activities/ initiatives in the energy and petroleum sectors.

NuPEA is implementing two Vision 2030 Programmes, namely:

- a) Nuclear power programme – first nuclear power plant to be commissioned in **2034**;
- b) Research Reactor Programme – first nuclear research facility to be commissioned in **2030**.

In implementing the nuclear power programme, Kenya is expected to accede to international conventions and treaties on nuclear safety and security. To this end, NuPEA is coordinating and implementing international obligations under the auspices of the IAEA, bilateral agreements with several countries including USA, South Korea, China and Russia.

This will ensure the establishment of infrastructure for safe and secure utilization of nuclear energy in Kenya, subjecting all its peaceful nuclear activities/projects to international safeguards obligations and establishing a comprehensive legal and technical framework for the safe and secure application of nuclear technology in country.

The following are the reasons why NuPEA should remain as an independent entity:

- a) Kenya is at the implementation stage of the nuclear power programme and requires an implementing organ (NEPIO) to guide the development of nuclear infrastructure in line with international best practices. MoE is therefore best placed to provide policy guidance/direction as opposed to the implementation of the nuclear power programme.
- b) NuPEA has made significant gains since its inception, and it is at a critical stage towards the realization of the nuclear energy goal as anticipated in 2010. Loss of independence for NuPEA will lead to slow down of the nuclear power programme and will also lead to heavy losses of the investments that the Government has channeled to NuPEA for nuclear power development.
- c) The enactment of the Energy Act, 2019, establishing NuPEA enabled Kenya to achieve Infrastructure issue on National Position as evaluated by International Atomic Energy Agency during the Follow up INIR mission conducted in June, 2021. The IAEA commended Kenya for establishing a standalone Agency to spearhead its nuclear power development. Indeed, the IAEA has showcased this model to other emerging countries as a best practice for effective, efficient and timely implementation of a project of this magnitude.
- d) NuPEA was bestowed with the role of managing the National Liaison Office that oversees all IAEA activities and programmes in Kenya across various sectors of the economy. The momentum, harmony and institutional memory that has been achieved over the last 12 years would be negatively impacted, with a knock-on effect by slowdown of implementation of the programs.

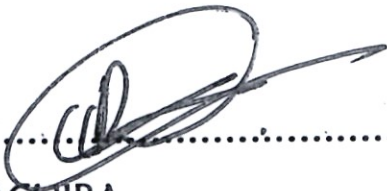
- e) NuPEA as a NEPIO has efficiently and effectively discharged its mandates and activities, which has successfully moved the country's nuclear power programme from Phase 1 to Phase 2 of the IAEA milestone approach. It is international best practice for a NEPIO to be an independent entity with the right competencies and resources to coordinate activities of the various institutions and stakeholders involved in the nuclear energy development. Without such autonomy, the implementational element would not be efficiently undertaken.
- f) The government has also invested in building institutional nuclear capacity since 2010. This institutional capacity at NuPEA has specialized in the field over the years, hence its suitability to continue running the programme. NuPEA has also established critical networks and synergies with international organizations and countries. It is important for NuPEA to extend these networks, and fulfill her commitments and obligations for the benefit of the country.
- g) NuPEA's current staff establishment is 147, comprises a number of competences in various cadres. It would be exceedingly difficult to fit the same within the Ministry structure. This would result in substantive job losses for the Agency's current staff.
- h) Towards implementation of its mandate of coordination of energy research and development and capacity building, the Agency coordinated the development of a framework for research and development and a masterplan for capacity building. This was implemented through the participation of the Ministry and all sector state corporations. The strategies earmarked for implementation will be negatively impacted by winding up of the coordination entity,

NuPEA, resulting in forgone opportunities for the sector and the country at large.

From the aforementioned, the position of the Ministry of Energy & Petroleum and in the best interest of the country is that NuPEA should NOT be wound up and should remain as presently constituted as a Semi-Autonomous Government Agency. This will ensure effective implementation of the nuclear power programme and coordination of energy research and development in the energy and petroleum sectors. The MoEP will continue to discharge its policy guidance mandate to the entities in the energy and petroleum sectors.

Dated 29th Day of November, 2023

SIGNED:



ALEX WACHIRA

PRINCIPAL SECRETARY

STATE DEPARTMENT OF ENERGY

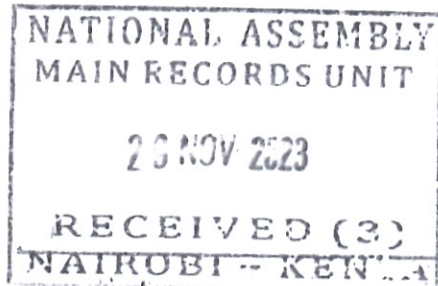
MINISTRY OF ENERGY & PETROLEUM



Telephone: +254-20-5138300
Email: chairman@nuclear.co.ke
When replying please quote

OFFICE OF THE CHAIRMAN
NUCLEAR POWER AND ENERGY AGENCY
KAWI COMPLEX, OFF REDCROSS ROAD
P. O. Box 26374-00100
NAIROBI

Ref No: NuPEA/NA/2023-24/01



Date: 29th November, 2023

Mr. Samuel Njoroge
Clerk of the National Assembly
P.O Box 41842-00100
NAIROBI

Dear

Samuel

E: MEMORANDA TO THE NATIONAL ASSEMBLY ON THE STATUTE LAW (MISCELLANEOUS AMENDMENTS), BILL (NATIONAL ASSEMBLY BILL NO. 67 OF 2023)

Reference is made to the publication by the Saturday Nation on 18th November 2023 inviting the public and stakeholders to submit memoranda on the matter of consideration by the National Assembly on the Statute Law (Miscellaneous Amendments), Bill (National Assembly Bill no. 67 of 2023).

Nuclear Power and Energy Agency is a State Corporation under the Ministry of Energy and Petroleum established through the Energy Act 2019. It is charged with the responsibility of promoting and implementing Kenya's Nuclear Power Programme and carrying out research & development as well as capacity building for the energy and petroleum sectors.

The Statute Law (Miscellaneous Amendments) Bill on the proposed amendment to the Energy Act, 2019 (No.1 of 2019) in the memorandum of objects and reasons section proposes the winding up of the Nuclear Power and Energy Agency and transfer of its functions to the Ministry of Energy & Petroleum as captured in the recommendation of the Presidential Taskforce on the Power Purchase Agreements.

The Board of Directors at its Special Full Board meeting held on Friday 24th November, 2023 considered the matter and resolved to present the attached Memorandum which argues for the continued existence of the Agency. A decision to wind up Nuclear Power and Energy Agency would amount to a challenge of the entire legislative framework which established the organization and all previous decisions of the Government since 2010 on the nuclear power programme, the mandate of the Agency and planned investments and commitments made for the development of the sector.

Yours

Sincerely

Ezra Odondi Odhiambo

Mr. Ezra Odondi Odhiambo.

CHAIRMAN

Encls:



KENYA





NATIONAL ASSEMBLY
MAIN RECORDS UNIT
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**MEMORANDUM BY THE NUCLEAR POWER AND ENERGY
AGENCY TO THE NATIONAL ASSEMBLY ON THE STATUTE
LAW (MISCELLANEOUS AMENDMENTS), BILL (NATIONAL
ASSEMBLY BILL NO. 67 OF 2023)**

SUMMARY

NOVEMBER 2023

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1. PURPOSE

The purpose of the memorandum is to present to the National Assembly (Thirteenth Parliament Second Session) (2023) a Memorandum by the Nuclear Power and Energy Agency memorandum of objects and reasons on the proposed amendment to the Energy Act, 2019 (No.1 of 2019) on the proposal on the winding up of the Nuclear Power and Energy Agency as captured in the recommendation of the Presidential Taskforce on the Power Purchase Agreements

2. INTRODUCTION

In 2010, the National Economic & Social Council (NESC) recommended the introduction of nuclear power to meet future electricity demand. The nuclear power option was also integrated in the national energy plan - the Least Cost Power Development Plan. In November, 2010, the Nuclear Electricity Project Committee (NEPC) was established under the Ministry of Energy (MoE) to drive the nuclear energy generation programme for Kenya. NEPC was later transformed to Kenya Nuclear Electricity Board (KNEB) vide Gazette Notice No. 131, supplement 156 of 23rd November, 2012. The mandate of KNEB was to fast-track the development and implementation of the nuclear power programme in order to enhance the production of affordable and reliable electricity generation in Kenya.

Through the Energy Act, 2019, KNEB was transformed to the Nuclear Power and Energy Agency (NuPEA) which is a State Corporation under the Ministry of Energy. The Act expanded the Agency's mandate to include promoting and implementing Kenya's Nuclear Power Programme, carrying out research and development, and capacity building in the energy sector.

NuPEA's mandate as stipulated in Section 56(1) of the Energy Act, 2019, are to:

- (a) Be the nuclear energy programme implementing organization and promote the development of nuclear electricity generation in Kenya.
- (b) Coordinate the implementation of research, development and dissemination in the energy and petroleum sectors, and;
- (c) Coordinate the implementation of capacity building activities in the energy and petroleum sectors.

3. IMPORTANCE OF NuPEA AS A SEMI-AUTONOMOUS GOVERNMENT AGENCY

3.1. Kenya's Leading Role in Africa Nuclear Development Agenda.

Any country embarking on the deployment of a Nuclear Power Plant is required to establish a Nuclear Energy Program Implementation Organization (NEPIO) to coordinate all activities related to the 19 nuclear infrastructure issues. As illustrated in fig 7. the most advanced nuclear power programmes in Africa are those with stand-alone agencies leading the development. Kenya's nuclear power programme is rated fifth out of fifteen African countries in the nuclear development race, based on the progress in development under the IAEA milestone approach model.

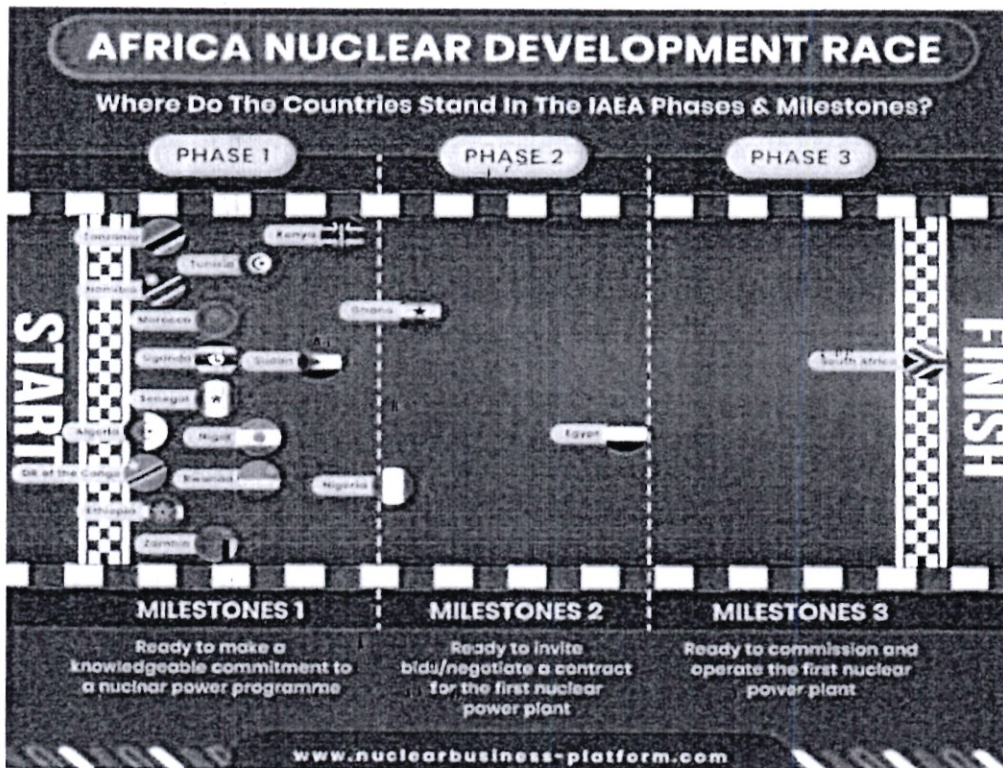


Figure 7. Africa Nuclear Development Race (Nov.2021).

The Kenya nuclear power project has been in existence since 2010. Being a first of a kind (FOAK) project in Kenya, it necessitated the formation of a special purpose vehicle to drive it. The nuclear sector is akin to the aviation industry with regards to the safety requirements. Nuclear power has a low probability-high consequence risk profile that requires a dedicated team to focus on efficient implementation of the nuclear programme.

NuPEA has advanced in developing the nuclear program in Kenya. The Agency has since carried pre-feasibility and feasibility studies; extensive nuclear capacity building (still ongoing) in which the staff of energy sector entities and nuclear sectors in the country have been trained in nuclear engineering and energy policy. A human resource development strategy has been developed, the proposed nuclear power plant site identified and is in the final stages of site land acquisition. A regional office has been established to engage the relevant stakeholders in potential nuclear power plant host counties and to aid in conducting the preliminary and detailed site characterization studies in the region.

Significant strides have been made in building a nuclear-dedicated human capacity which has ably and diligently progressed the program with the IAEA's guidance. Abolishment of the Agency would significantly slow down the momentum of the programme.

3.2. Role of NuPEA as the National Liaison Office

Kenya has been a member of the International Atomic Energy Agency (IAEA) since 1965 and has benefited tremendously from technical cooperation programmes. Every member state of the IAEA is required to establish a National Liaison Office (NLO). NuPEA is the country's NLO, the office



charged with the duty of managing, coordinating and implementing IAEA sponsored projects and programmes in all fields of peaceful uses of nuclear science and technology in Kenya.

In executing the nuclear power programme, NLO plays a pivotal role in ensuring optimal performance of the IAEA technical cooperation programme towards implementation of three of the five sectors that form the core pillars of the Bottom-Up Economic Transformation Agenda (BETA). Additionally, other sectors of the economy benefit from NuPEA's efficient coordination of nuclear energy applications in the country;

- a) In Human Health, NuPEA has supported the building of infrastructure and capacity building for cancer diagnosis and treatment through establishment of cancer centers in four national referral hospitals
- b) In agriculture, NuPEA has facilitated research into production of varieties of seeds that can withstand drought and diseases and produce high yields. Additionally, improved animal forage has been produced to enhance production of beef and milk;
- c) The Micro, Small and Medium Enterprise (MSME) economy will be positively impacted by implementation of the nuclear power plant project through the numerous opportunities that will be provided for both large and MSMEs that will possess capabilities that meet nuclear requirements to supply the required goods and services. Local suppliers including engineering companies; manufacturing companies; civil construction and system assembly companies; services; and operation and maintenance companies will be involved during the construction and commissioning of the nuclear power plant and the plant operation phase.
- d) In manufacturing, NuPEA has facilitated the establishment of a second dosimetry laboratory at the Kenya Bureau of Standards (KEBS) and calibration improvement to meet international standards in industry.
- e) Water Resource Management has also been improved through introduction of nuclear techniques in mapping of water resources to improve water management in the country. All these projects are geared towards achieving national development objectives through peaceful application of nuclear technology.

3.3. Role of NuPEA in Implementation of the Vision 2030

NuPEA, being the Nuclear Energy Programme Implementing Organization (NEPIO), has an important role to play in attainment of Vision 2030 aspirations by enhancing access to clean, affordable, reliable and efficient energy in the country. Within the Vision 2030, energy is recognized as a key enabler to the implementation of the flagship projects which will lead to increased power demand. NuPEA is also expected to play a critical role in accelerating economic development by raising productivity and efficiency levels across the three pillars through coordination of research and development (R&D) and capacity building activities/ initiatives in the energy and petroleum sectors.

Kenya's Nuclear Power program has been on a positive trajectory due to strong government support as a semi-autonomous nuclear implementing agency. The Agency is working in collaboration with all national and international stakeholders to ensure full implementation of the program safely and securely. Nuclear is playing a crucial role in the realization of Kenya's vision 2030. NuPEA is implementing two Vision 2030 Programmes, namely:

- a) Nuclear power programme – first nuclear power plant to be commissioned in 2034
- b) Research Reactor Programme – first nuclear research facility to be commissioned in 2030

3.4. Research Reactor Project

NuPEA is coordinating the development of the Kenya Nuclear Research Reactor (KNRR) project in Konza Technopolis. The project is envisaged to accelerate economic development and improve quality of life through the application of nuclear energy technology in scientific research, industry and healthcare as outlined under BETA.

The KNRR has wide applications in education and training, health, industry, energy, and research. The main utilizations envisaged include: enhancing national research and development capabilities and intergovernmental collaborations; improving and encouraging industrial competitiveness; enhancing material structure study for various applications; production of radioisotopes for medical and industrial applications; improving calibration and testing services for industrial and medical instruments; and education and training of students and staff of various institutions.

3.5. Role of NuPEA in Coordinating and Implementing Kenya's International Obligations

a. Under IAEA Auspices

Kenya, as a member state of the International Atomic Energy Agency, is expected to perform its international obligation for the nuclear power programme. NuPEA, as a semi-autonomous agency is crucial in meeting these obligations, which include:

- (a) Ensuring the establishment of infrastructure for safe and secure utilization of nuclear energy in Kenya, subjecting all its peaceful nuclear activities/projects to safeguards and establishing a comprehensive legal framework for the safe and secure application of nuclear technology in Kenya;
- (b) The implementation of the IAEA/Kenya Cooperation Framework Agreement/Country Project Framework (CPF) 2017 to 2022 (signed on 31st May 2017) for development of peaceful uses of Nuclear Energy in food and agriculture; human health; water resources management; agro-environmental management; industrial applications; sustainable energy development; human capacity building in nuclear science and technology; and, strengthening national radiation safety and nuclear security.
- (c) Development of an adequate policy, legal and regulatory framework for peaceful uses of nuclear technology in a manner that protects people, property and the environment
- (d) Implementation of the Nuclear Regulatory Act No. 29 of 2019 (NRA), the Kenya Nuclear Regulatory Authority (KNRA) has entered into an MoU with NuPEA to jointly review and harmonize all national Laws relevant to the Nuclear Power Programme as well as to develop regulations to operationalize the NRA as required by section 98.

In addition, NuPEA as a semi-autonomous agency has facilitated international collaboration and agreements with various international entities for the ongoing nuclear power programme and thus Kenya has some international obligations that need to be maintained to effectively implement the nuclear power programme. Among these are the following engagements.

b. NuPEA collaboration with USA Foundational Infrastructure for Responsible use of Small Medium Reactor Technology (SMR) (FIRST) programme

This collaboration commenced in 2019 with interaction between NuPEA and the FIRST team led by the U.S. Department of State for collaboration in developing areas of: nuclear security, safeguards; nuclear career professional development; workforce planning; legal and regulatory policy development for SMRs, building, financing and operation of SMR. In implementing the FIRST program, NuPEA established a multi-institutional team to be taken through, by the US expert, the various fields of peaceful application of nuclear energy with focus on the SMR technology. Further the objective of the program is to develop and maintain Kenya's infrastructure and human capacity for the responsible use of nuclear energy and technology, focusing on human capital and workforce development, education, training, public acceptance, and assistance programs. The Program also envisioned that the highest standards and practices in nuclear safety, security, safeguards, and nonproliferation will be maintained. The program will also support the development of an independent regulatory oversight; and improve communications, outreach, and community support for the peaceful uses of nuclear energy. Upon completion of the first engagement, the county has developed an action plan that prioritizes the urgent needs to enable Kenya develop the workforce needed for effective implementation of the ongoing nuclear power programme. The action plan focuses on several areas that contribute to workforce development. These areas include academic programs at the bachelor's and master's levels, technical education programs to prepare graduates for roles as technicians in an SMR power plant, professional development programs for those holding degrees, and other areas of possible collaboration.

This collaboration is planned for medium and long-term which spans in three phases. The initial engagement was conducted in 2019 with the other two phases planned in the next 3 to 5 years. NuPEA is the centerpiece for coordination of these engagements without which the collaboration may be halted.

c. United States International Nuclear Security Engagement with Kenya

There is an ongoing engagement, which commenced in 2021, between NuPEA and the United States department of Energy's office of International Nuclear Security Initiative with the aim of providing support in enhancing Kenya's nuclear security regime. The areas of collaboration are: nuclear security culture, nuclear security legal and regulatory framework, and capacity building for nuclear security. NuPEA is crucial in ensuring this engagement is sustained and thus contributes towards overall enhancement of the nuclear security framework for Kenya.

d. Existing MoUs

In implementing the nuclear power programme, NuPEA entered into Memorandum of Understanding with countries advanced in nuclear power technology including the US, the People Republic of China and Republic of South Korea. These MoUs are primarily for human capacity building. In this regard, NuPEA plays an important role in ensuring that financial, human and institutional support from the international community aids the development of the national nuclear power programme. A decision to disband the Agency would negatively affect the effective and efficient implementation of those MoUs.

Table 4: Status of Existing MoUs with Countries Advanced in Nuclear Power Technology

MOU/Programme	Purpose	Status	Benefits/Achievements
Ministry of Energy (Kenya) and Ministry of Trade, Industry and Energy (Republic of Korea) signed on 31 st May, 2016	Cooperation between Kenya and the Republic of Korea in Electric Power and Nuclear Energy Development.	Seoul National University (SNU) offers postgraduate training opportunities on Nuclear Policy related fields	3 students graduated between 2018 and 2023 2 students currently undertaking their studies
NuPEA, Korea Electric Power Corporation (KEPCO), Korea Nuclear Association for International Cooperation (KNA) and KEPCO International Nuclear Graduate School (KINGS) signed on 2 nd September, 2016	Cooperation in the field of nuclear energy through exchange of technical data, information, experience, know-how, visits and joint work	KINGS university offers two-year Master programs in Nuclear Power plant Engineering and Energy Policy & Engineering to students drawn mainly from various institutions in the energy sector in Kenya.	47 students graduated between 2012 and 2023 5 students are currently undertaking their studies
NuPEA and the Korea Atomic Energy Research Institute (KAERI) signed on 19 th September, 2017	Technical cooperation in Research and Development in Nuclear Energy.	Technical support in the feasibility study for KNRR project	Feasibility study report Nuclear Research Centre Prospectus
KINS-KAIST programme	Supporting Nuclear and Radiation Safety	Two-year Master program to students drawn mainly from the regulatory body (KNRA)	7 students graduated between 2012-2023
Memorandum of Understanding between the the Government of the Republic Kenya ("Kenya") and the Government of the United States of America ("the US") Concerning Strategic Civil Nuclear Cooperation ("NCMoU").	Technical cooperation in development of infrastructure for SMR	First engagement conducted on safety, safeguards and security aspects of SMR infrastructure development	Initial engagement undertaken on nuclear security, safety and safeguard. Planned assistance on stakeholder engagement and public communication in Kilifi County.



MOU/Programme	Purpose	Status	Benefits/Achievements
NuPEA and United States International Nuclear Security Engagement	Technical cooperation in legislative and regulatory framework development for nuclear security	Workshop engagement on nuclear security capacity development	Capacity building on nuclear security culture and nuclear security regulations
Republic of Korea	Bilateral Cooperation on Peaceful Use of Atomic Energy through exchange of technical data, information and experience.	Capacity building and training of Kenyans in nuclear technology	Host of policy makers and legislators and training of Kenyans on nuclear technology.
People's Republic of China	Capacity Building for the nuclear power programme	Capacity building and training of Kenyans in nuclear technology	Nuclear Model and training of Kenyans on nuclear technology

4. CHALLENGES OF LOSING NuPEA AS A SEMI-AUTONOMOUS GOVERNMENT AGENCY

- i. The Ministry of Energy is best placed to guide energy matters at a policy level, and requires capable implementers of such policy. Nuclear is a technical and complex matter, and is best placed in a specialized technical organization, such as bestowed on NuPEA.
- ii. NuPEA has made significant gains since its inception, and it is at a critical stage towards the realization of the nuclear energy goal as anticipated in 2010. Loss of independence for NuPEA may lead to slow down of the nuclear power programme and may also lead to heavy losses of the investments that the Government has channeled to NuPEA for nuclear power development.
- iii. The enactment of the Energy Act, 2019, establishing NuPEA enabled Kenya to achieve Infrastructure issue on National Position as evaluated by International Atomic Energy Agency during the Follow up INIR mission conducted in June, 2021. The proposed disbandment will negatively affect this achievement.
- iv. NuPEA was bestowed with the role of managing the National Liaison Office that oversees all IAEA activities and programmes in Kenya across various sectors of the economy. The momentum, harmony and institutional memory that has been attained over the last 12 years would be negatively impacted, with a knock-on effect by slowdown of implementation of the programs.
- v. NuPEA has so far successfully discharged the activities of a NEPIO in Phase 1 of the nuclear energy development, and has progressed to Phase 2. It is international best practice for a NEPIO to be an independent entity with the right competencies and resources to coordinate activities of the various institutions and stakeholders involved in the nuclear energy

development. Without such autonomy, the implementation element would not be efficiently undertaken.

- vi. In Phase 2 of nuclear energy development, the country requires a technically capable organization to be the eventual owner and/or operator of a nuclear power plant. This responsibility (of identifying a suitable owner operator is bestowed upon NuPEA by the Energy Act sec 56, 2 (h). This organization needs to have a technical know-how of nuclear reactor technology, and its market, to be able to write, invite and evaluate successful bids. The strengths and the human resource required for these functions are currently domiciled within NuPEA.
- vii. The government has invested to build institutional nuclear capacity since 2010 (>13 years). This institutional capacity at NuPEA has specialized in the field over the years, hence its suitability to continue running the programme. NuPEA has also established critical networks and synergies with international organizations and countries. It is important for NuPEA to extend these networks, and fulfill its commitments and obligations for the benefit of the country.
- viii. The Agency has trained young high-level professionals (Nuclear Engineers and Scientists) who have specialty in peaceful applications of nuclear science and technology. Further, the Agency is undertaking sustained STEM Mentorship for students with international partners both for primary and secondary school students.
- ix. There exists a risk of Kenya losing international goodwill demonstrated through NuPEA's leadership in the development of the country's nuclear power programme.
- x. NuPEA is also responsible for the identification and establishment of key institutions critical to the implementation of the nuclear power programme such as the Regulator, Owner Operator and waste management authority and building their capacities as appropriate. The disbandment of the Agency would negatively affect this role which is best executed by a body independent of the parent Ministry as a policy maker.

5. CONCLUSION

NuPEA's mandate interfaces with many sectors of the Kenyan economy, the implementation requires high levels of specialization and high-level performance. For successful implementation of the nuclear power programme, independent designation of a NEPIO (NuPEA) is quite important. Other stakeholders should continue to play their roles with NuPEA as the coordination point. The gains and progress made in the implementation of the nuclear power programme should be guarded and protected. At this particular point, the organization that is NuPEA needs to advance, and to hire more experts, most of whom are in its human resource development pipeline, especially at this moment when critical activities such as site characterization commences.

It is our submission that the Ministry of Energy is best placed to guide energy matters at a policy level, and requires capable implementers of such policy. Nuclear is a technical and complex matter, and is best placed in a specialized technical organization. Being a first of a kind (FOAK) project in Kenya, it necessitated the formation of a special purpose vehicle to drive the implementation of the nuclear project. Nuclear power has a low probability-high consequence risk profile that requires a dedicated team to focus solely on nuclear power generation. Nuclear requires special attention given its technical complexity and the global interactions necessary to succeed in this industry. This makes it possible to reach out to other such organizations globally, collaborate and ensure the development of a credible nuclear power programme.

Section 9.3 of the National Energy Policy 2018 recognizes that Research and Development (R&D) as well as human resource capacity development enhancement are key to the development of the energy sector. The Policy further highlighted the need to have a distinct Institute of Energy Research to conduct national energy research in matters ranging from (clean) energy technology, policy frameworks, energy economics, energy regulation, energy efficiency and conservation (safety and economic) and energy markets/power tariffs, among others. These responsibilities have since been conferred to NuPEA. While the other entities in the sector will continue to play their roles in research and development and capacity building initiatives, a coordination mechanism to guarantee efficiency and eliminate duplicity is important. NuPEA should therefore be facilitated and strengthened to play this role as it was envisaged by the Energy Act.

NuPEA is currently entering into the operational mandates, transitioning from the policy framework put in place through the Ministry of Energy & Petroleum. As such the Nuclear Regulatory Act, 2019 stipulates those various operational matters regarding nuclear power must be subject to available regulations. Nuclear operational matters should be conducted by a special purpose vehicle which is subject to the prevailing regulatory regime. It is against this backdrop that the government needs a stand-alone institution that will be able to concentrate on operational matters which are subject to the purview of a regulatory process.

A nuclear power programme requires long term planning due to its specialized nature. This will enable the country have a proper coordination in implementing the programme in accordance to the international best practices. Most countries that have successfully developed nuclear power programmes have done so in 15-20 years. It is important that the Government make investment in the programme early on to ensure its successful implementation.

A decision to wind up NuPEA would amount to a challenge to the entire legislative framework for regulation of nuclear energy, previous decisions of Government on the nuclear programme, mandate of the Agency and planned investments and commitments made for the development of the sector.

DATED at NAIROBI this 29th DAY of November, 2023

SIGNED: 

EZRA ODONDI ODHIAMBO

CHAIRMAN BOARD OF DIRECTORS

NUCLEAR POWER AND ENERGY AGENCY

NATIONAL ASSEMBLY
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**MEMORANDUM BY THE NUCLEAR POWER AND ENERGY
AGENCY TO THE NATIONAL ASSEMBLY ON THE STATUTE
LAW (MISCELLANEOUS AMENDMENTS), BILL (NATIONAL
ASSEMBLY BILL NO. 67 OF 2023)**

NOVEMBER 2023

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LIST OF ACRONYMS AND ABBREVIATIONS

BETA	Bottom-Up Economic Transformation Agenda
CNESTEN	Centre for Nuclear Energy, Science and Technology
EBIF	Electron Beam Irradiation Facility
EOI	Expression of Interest
FMEF	Fuel and Material Examination Facility
FIRST	Foundational Infrastructure for Responsible use of SMRs
IBAF	Ion Beam Accelerator Facility
PFS	Pre-Feasibility Study
IAEA	International Atomic Energy Agency
IFNEC	International Framework for Nuclear Energy Cooperation
INIR	Integrated Nuclear Infrastructure Review
KAERI	Korea Atomic Energy Research Institute
KAIST	Korea Advanced Institute of Science and Technology
KEPCO	Korea Electric Power Company
K-INGS	Kepeco International Nuclear Graduate School
KINS	Korea Institute of Nuclear Safety
KIPPRA	Kenya Institute for Public Policy Research and Analysis
KNA	Korea Nuclear Association for International Cooperation
KNEB	Kenya Nuclear Electricity Board
KNRA	Kenya Nuclear Regulatory Authority
KOICA	Korea International Cooperation Agency
KOTDA	Konza Technopolis Development Authority
KNRR	Kenya Nuclear Research Reactor
LAC	Land Access Committee
LRF	Laser Research Facility for isotope separation
MC	Medical Cyclotron
MWth	Megawatts Thermal
NEMA	National Environmental Management Authority
NEPC	Nuclear Electricity Project Committee



NEPIO	Nuclear Energy Programme Implementing Organization
NESC	National Economic and Social Council
NFC	Nuclear Fuel Cycle
NLO	National Liaison Office
NPP	Nuclear Power Plant
NRC	Nuclear Research Centre
NSSS	Nuclear Steam Supply System
NTC	Nuclear Training Center
NuPEA	Nuclear Power and Energy Agency
QMS	Quality Management System
IRL	Internet Reactor Laboratory
RTA	Reactor Technology Assessment
RRs	Research Reactors
R&D	Research and Development
SEED	Site and External Events Design
SER	Self-Evaluation Report
SESA	Strategic Environmental and Social Assessment
SMRs	Small Modular Reactors
SNU	Seoul National University
SSDL	Secondary Standard Dosimetry Lab
SST	Site Selection Team
STEM	Science, Technology, Engineering and Mathematics
THEF	Thermal-Hydraulic Experimental Facility

1. PURPOSE

The purpose of the memorandum is to present to the National Assembly (Thirteenth Parliament Second Session) (2023) a Memorandum by the Nuclear Power and Energy Agency memorandum of objects and reasons on the proposed amendment to the Energy Act, 2019 (No.1 of 2019) on the proposal on the winding up of the Nuclear Power and Energy Agency as captured in the recommendation of the Presidential Taskforce on the Power Purchase Agreements

2. INTRODUCTION

In 2010, the National Economic & Social Council (NESC) recommended the introduction of nuclear power to meet future electricity demand. The nuclear power option was also integrated in



the national energy plan - the Least Cost Power Development Plan. In November, 2010, the Nuclear Electricity Project Committee (NEPC) was established under the Ministry of Energy (MoE) to drive the nuclear energy generation programme for Kenya. NEPC was later transformed to Kenya Nuclear Electricity Board (KNEB) vide Gazette Notice No. 131, supplement 156 of 23rd November, 2012. The mandate of KNEB was to fast-track the development and implementation of the nuclear power programme in order to enhance the production of affordable and reliable electricity generation in Kenya.

Through the Energy Act, 2019, KNEB was transformed to the Nuclear Power and Energy Agency (NuPEA) which is a State Corporation under the Ministry of Energy. The Act expanded the Agency's mandate to include promoting and implementing Kenya's Nuclear Power Programme, carrying out research and development, and capacity building in the energy sector.

NuPEA's mandate as stipulated in Section 56(1) of the Energy Act, 2019, are to:

- (a) Be the nuclear energy programme implementing organization and promote the development of nuclear electricity generation in Kenya.
- (b) Coordinate the implementation of research, development and dissemination in the energy and petroleum sectors, and;
- (c) Coordinate the implementation of capacity building activities in the energy and petroleum sectors.

i. Policy Documents Guiding NuPEA

Operations of NuPEA are guided by the Energy Act, 2019. However, as a government institution, the Agency must comply with other national legislations, policies, circulars and guidelines, as well as international protocols on nuclear.

Table 1 provides details of the legal and regulatory framework guiding NuPEA's operations.

Table 1: Legal and Regulatory Framework Guiding NuPEA

S/NO.	LEGISLATION/POLICY/FRAMEWORK	RELEVANCE TO NuPEA
1.	The Constitution of Kenya, 2010	Provides National values and principles of Governance to guide the implementation of NuPEA's mandate
2.	The Energy Act No. 1 of 2019	Establishes NuPEA and prescribes its mandate
3.	Kenya Nuclear Regulatory Act No. 29 of 2019	Provides a comprehensive framework for the regulation of safe, secure and peaceful utilization of atomic energy and nuclear technology; the production and use of radiation sources and the management of radioactive waste
4.	The Science, Technology and Innovation Act, 2013 (Revised 2014)	Regulates and assures the quality of the science, technology and innovation sector and advises the government on related matters, including NuPEA's role in coordination of research and development.

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S/NO.	LEGISLATION/POLICY/FRAMEWORK	RELEVANCE TO NuPEA
5.	The State Corporations Act Cap 446	Provides for the control and regulations of state corporations in the country
6.	The Environmental Management and Coordination Act 1999 (Revised 2012) and its amendment (2015)	Guides the national environmental protection framework for nuclear power programme
7.	Public Finance Management Act, 2012	Provides for the effective management of public finances by Government entities.
8.	Public Procurement and Disposal Act, 2019	Provides procedures for efficient public procurement and for assets disposal by public entities
9.	Public Officer Ethics Act	Advances the ethics of public officers by providing for a Code of Conduct and Ethics for public officers
10.	The Kenya Vision 2030 (Third Medium Term Plan, MTP 2018-2022)	Guides the developmental trajectory of the Country
11.	Bottom-Up Economic Transformation Agenda	Sets out current government priorities
12.	The Sustainable Development Goals (SDGs)	Provides a framework to enhance the quality of life of the world's citizens
13.	Africa's Agenda, 2063	Provides a collective vision and roadmap for social economic transformation of the African continent over the next fifty years.
14.	The Least Cost Power Development Plan (LCPDP)	Guides the country's electricity generation and transmission system planning.
15.	The Energy Policy 2018	Provides policy framework to guide the development of the country's energy sector
16.	The Ministry of Energy Strategic Plan	Provides the strategic direction for the development of the country's energy sector
17.	The 15-Year Roadmap for a Nuclear Power Programme in Kenya	Provides a road map to guide the development of national nuclear Infrastructure
18.	<ul style="list-style-type: none"> Sessional Paper No.1 of 2005; Policy Framework for Education, Training and Research 	Policy Papers related to education, research and development;

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S/NO.	LEGISLATION/POLICY/FRAMEWORK	RELEVANCE TO NuPEA
	<ul style="list-style-type: none"> The Technical, Industrial, Vocational and Entrepreneurship Strategy, 2008. Sessional Paper No- of 2012; A Policy Framework for Science, Technology and Innovation in Kenya, 	
19.	<ul style="list-style-type: none"> Nuclear International Treaties and Conventions 	Commitment of the country to international standards on nuclear safety, security and safeguards.

ii. Summary of NuPEA's Mandates and Functions

a. Nuclear Power Programme Infrastructure Development.

Kenya has been a Member State of the International Atomic Energy Agency (IAEA) since 1965. This is the United Nation's specialized agency responsible for promotion of safe, secure and peaceful use of nuclear technologies worldwide. Kenya is implementing its nuclear power programme based on the IAEA Milestone Approach, which considers development of the 19 nuclear infrastructure issues summarized in table 2:

Table 2: 19 Infrastructure issues

Key Considerations for a Nuclear Power Programme	
1. National position	11. Stakeholder involvement
2. Nuclear safety	12. Site and support facilities
3. Management	13. Environmental protection
4. Funding and financing	14. Emergency planning
5. Legal framework	15. Nuclear Security
6. Safeguards	16. Nuclear fuel cycle
7. Regulatory framework	17. Radioactive waste management
8. Radiation protection	18. Industrial involvement
9. Human resources development	19. Nuclear procurement
10. Electric grid	

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b. Nuclear Research and Development

In the implementation of its Research and Development (R&D) function, NuPEA is developing the requisite infrastructure for sustainable nuclear R&D. Key among these is the implementation of the Kenya Nuclear Research Reactor (KNRR) project. Research reactors (RRs) provide an avenue to increase R&D programmes to enhance Kenya's capability to implement the nuclear power programme successfully and increase the ability/capacity for national and industrial participation. The implementation of the KNRR project will play a key role in the realization of the objectives of the Kenya Vision 2030 and the Bottom-Up Economic Transformation Agenda through its utilization in health, agriculture, industry and research.

c. Energy Research & Development and Capacity Building

Section 9.3 of the National Energy Policy 2018 recognizes that Research and Development (R&D) as well as human resource capacity development enhancement are key to the development of the energy sector. The Policy further highlighted the need to have a distinct Institute of Energy Research to streamline and provide a coordinated approach to energy research, development and capacity building. At the time of enactment of the Act, the Government in an effort to manage the wage bill, resolved against creation of a separate entity to implement the functions and instead conferred the same to NuPEA as an additional mandate.

Capacity building in the Energy and Petroleum sectors in the country has mainly been undertaken in a segregated manner by the various institutions in the energy and petroleum sectors. This lack of a coordinated approach has resulted in significant inadequacies in the implementation of energy research. NuPEA's new mandate incorporates the critical role of coordinating effective implementation of energy research, development and capacity building in the energy and petroleum sectors in Kenya towards enhancing prioritization of critical thematic areas, optimal mobilization and utilization of adequate resources and minimizing and eventually eliminating overlaps, duplication and inefficiencies in energy R&D and capacity building.

It is however expected that as NuPEA plays the coordination role, other stakeholder institutions are expected to continue with respective and allocated R&D and capacity building functions.

d. National Liaison Office

In addition to the aforementioned functions, the Agency hosts Kenya's National Liaison Office (NLO) for the International Atomic Energy Agency (IAEA). This is the office appointed by the Government of Kenya as the principal interface between the country and the United Nations international organization charged with oversight of peaceful uses of nuclear energy in the world. The NLO office is charged with managing, coordinating and implementing IAEA projects and programmes in all fields of peaceful uses of nuclear science and technology in Kenya.

To align with international best practices for implementing the nuclear power programme, independent institutions are established to coordinate the various activities. NuPEA has played this role and the country has made significant steps in all areas of nuclear development. In addition, efficient operationalization of a coordinated approach to capacity building, research and development as envisioned in the Energy Act 2019 and the National Energy Policy, will be achieved by its implementation through an autonomous Government agency. In view of the aforementioned and the commencement of the Kenya Nuclear Research Reactor (KNRR) Programme, the independence of NuPEA should be safeguarded to achieve the enormous benefits



of application of nuclear science and technology in the country as well as a coordinated approach in capacity building, research and development in the energy and petroleum sectors.

e. Linkages with the Ministry of Energy

In execution of its mandate, NuPEA receives advise, counsel, support, oversight and facilitation from the Ministry of Energy. These include:

- i. Oversight of activities and programs undertaken by NuPEA
- ii. Coordination of the Agency's performance management
- iii. Policy guidance in development of regulatory and legislative framework related to the nuclear power programme
- iv. Facilitate the process of ascension to international treaties and conventions relevant to the nuclear power programme through coordination with the Executive and Parliament.
- v. Authorization and coordination in the development of Memorandum of Understanding in areas related to NuPEA's mandate.
- vi. Facilitation for budgetary allocation in coordination with National Assembly and the National Treasury
- vii. Coordinating inter-governmental issues relating to NuPEA with other players in the energy sector as well as other ministries, departments and agencies of the National and County Governments.
- viii. Appointment of the Board of Directors and oversight of their functions and activities.

3. BRIEF OF NuPEA MANDATES AND FUNCTIONS

(i) Nuclear Power Programme Development

A nuclear power programme (or building a nuclear power plant) involves issues associated with nuclear material, ionizing radiation and the related challenges and is a major undertaking requiring careful planning, preparation and investment in sustainable infrastructure. Nuclear power infrastructure includes the institutions and organizations to provide legislation and regulations under which industry develops technology, provides facilities and uses education and science to train staff to enable society to be confident that the nuclear industry can operate safely, securely and economically. It also provides the legal, regulatory, technological, human and industrial support to ensure that the nuclear material is used exclusively for peaceful purposes and in a safe and secure manner.

Implementation of a nuclear power program involves several complex and interrelated activities with long duration. The IAEA's Milestone Approach¹ defines the activities needed to prepare the infrastructure for nuclear power, and are implemented in three phases. The duration of each phase is contingent on the degree of commitment and resources dedicated to the nuclear programme in the country. The infrastructure provides the processes and capabilities to enable the project activities and the subsequent operation of the nuclear power plant to be implemented safely, securely and sustainably. These three phases are:

¹ Milestones in the Development of a National Infrastructure for Nuclear Power (No. NG-G-3.1 (Rev.1))



1. Phase 1: Considerations before a decision to launch a nuclear power programme is taken;
2. Phase 2: Preparatory work for the contracting and construction of a nuclear power plant after a policy decision has been taken; and
3. Phase 3: Activities to implement the first nuclear power plant.

The completion of each phase is marked by a specific milestone at which the progress of the development effort can be assessed and a decision can be made to move on to the next phase. These milestones, denoted upon implementation of the requirements at each phase of nuclear development are:

- 1 Milestone 1: Ready to make a knowledgeable commitment to a nuclear power programme;
- 2 Milestone 2: Ready to invite bids/negotiate a contract for the first nuclear power plant;
- 3 Milestone 3: Ready to commission and operate the first nuclear power plant.

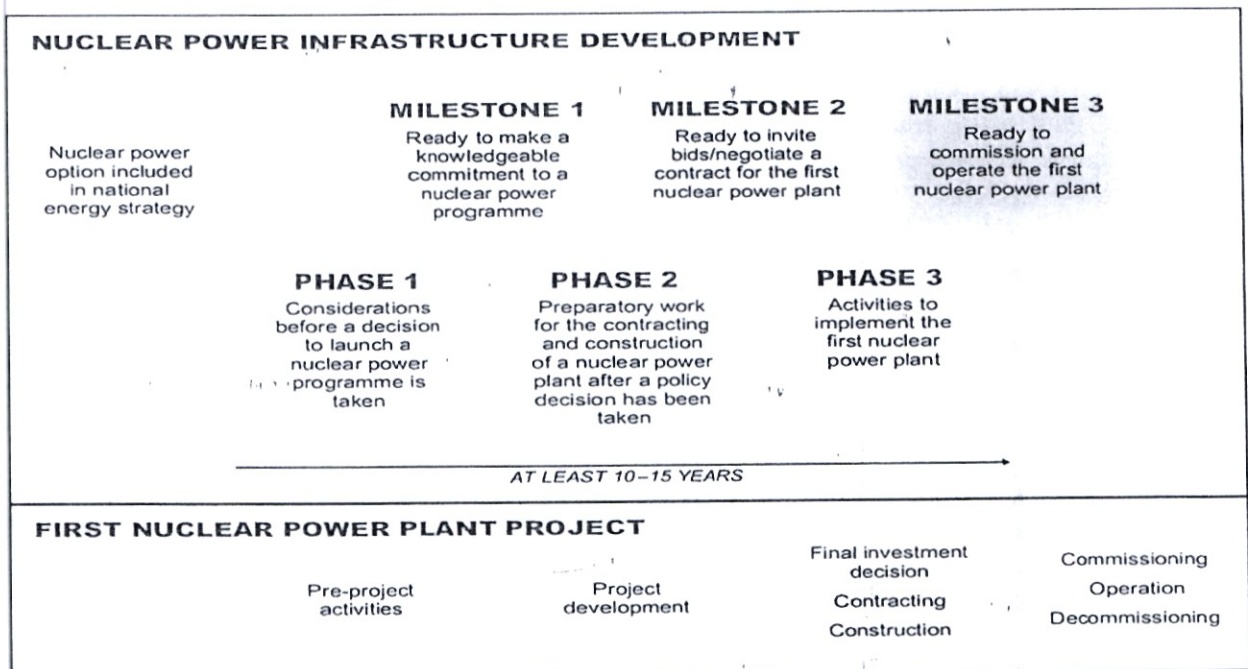


Figure 1: The IAEA Milestone Approach Illustrated

Once a decision to pursue nuclear power as an option in the energy generation mix is taken, a Nuclear Energy Implementing Organization (NEPIO) is formed as an independent organization to coordinate all the required activities in the initial stages. The role of the NEPIO is implementation, in regard to development of relevant nuclear infrastructure in the country.

Phase 1 is basically a planning phase. In this Phase, the NEPIO performs necessary research, studies, and makes policy recommendations on decisions to launch nuclear power programs. It coordinates nuclear power infrastructure development across Government, industry, future NPP Owner/Operator, Regulatory Body, etc. The NEPIO prepares policy and strategy recommendations to the decision-makers in Government with respect to each of the 19 infrastructure issues identified in the IAEA's Milestones Approach. The NEPIO studies the 19 infrastructure issues and understands implications and possible resolutions and produces a

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comprehensive report clearly laying out the commitments and processes necessary, enabling a knowledgeable commitment of the Government to prepare for a decision (Milestone 1). Typical schedule for the NEPIO report preparation: 1-3 years

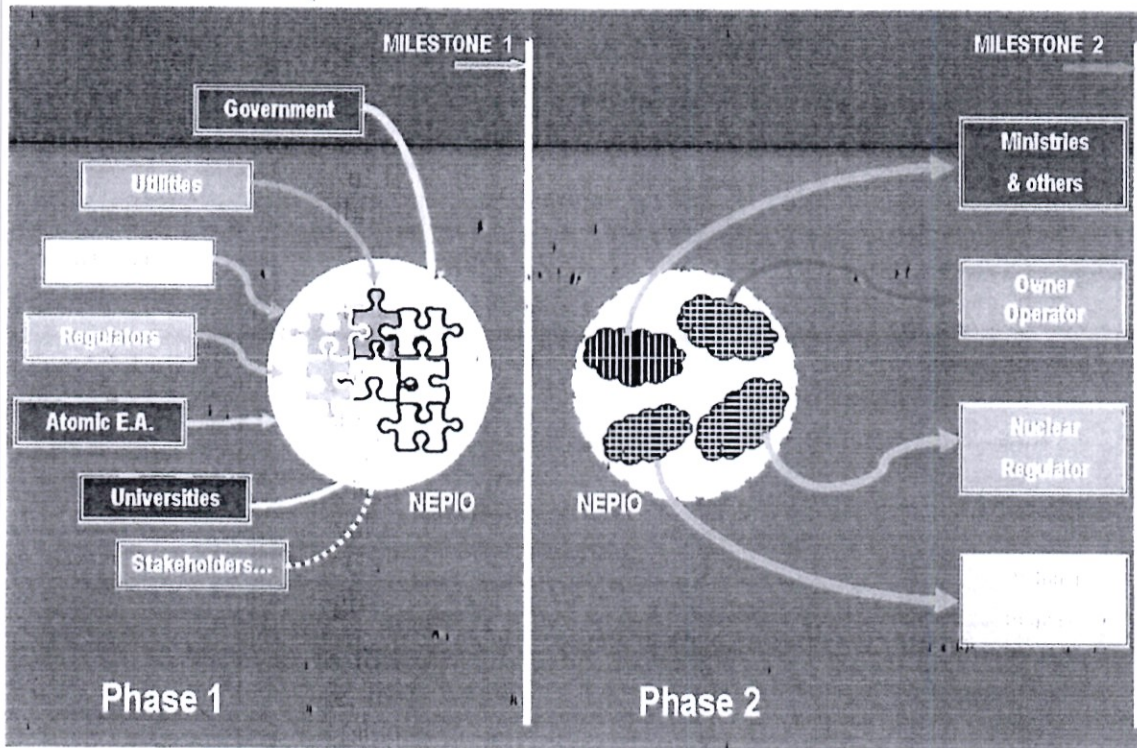


Figure 2: Phase 1 NEPIO (NuPEA) plays a coordination role across stakeholders in the Energy Strategy

In Phase 2, the NEPIO turns the approved strategies into firm action plans for each infrastructure issue and assigns responsibility to institutional organizations which will become a permanent part of the overall infrastructure program. The NEPIO will:

1. Play the crucial role to coordinate the development of the national nuclear power infrastructure;
2. Remain the leader for some policy issues, but most issues will become the responsibility of permanent organizations;
3. Monitor progress, oversee and coordinate among the various implementing organizations (Regulatory Body, NPP Owner/Operator, etc.) for development of national infrastructure;
4. Arrange for self-evaluation of the infrastructure status and establish corrective action;
5. Ensure continued Government support and funding during Phase 2 as it is vital to the success of the programme.

In Phase 3, the activities for the first NPP implementation are mainly in the contracting and construction. At this stage, the majority of the NEPIO responsibilities are already transferred to responsible organizations (state or private entities). However, Government commitment continues in this phase and remains significant. It is assumed that the duties of the NEPIO will be incorporated into the appropriate Governmental agency, which will act as the guiding organization for the country's nuclear power program. The NEPIO may assume an oversight role to assure that

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the program objectives are being met and that the “Knowledge” has been transferred to the right entities. The NEPIO also ensures that coordination mechanisms are established as appropriate to ensure coordination at the national level between safety-security safeguards (3 S) and other functions (nuclear fuel cycle, etc.).

The Energy Act, 2019 mandates NuPEA to be the nuclear energy programme implementing organization (NEPIO) in line with the international best practice for civil nuclear power development. Other critical entities are an independent nuclear regulatory body (established by Kenya Nuclear Regulatory Act (2019) and an Owner Operator organization (NuPEA is also mandated by the Energy Act 2019 to identify a potential owner/operator organization). NuPEA has successfully coordinated the implementation of all activities for phase I and attained milestone 1 of nuclear power development.

The roadmap to guide the implementation process of the nuclear power program for the country is illustrated in figure 3.

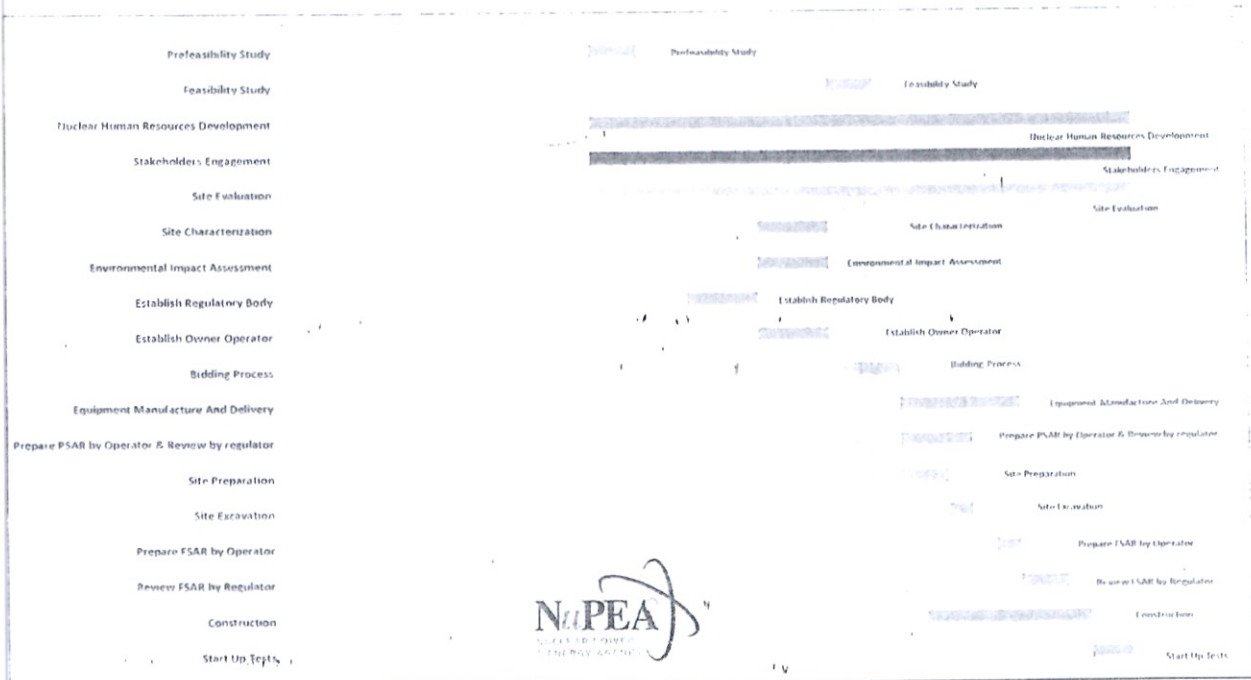


Figure 3: The Kenya Nuclear Power Programme Roadmap

(ii) Kenya Nuclear Research Reactor Project

The Government of Kenya recognizes the important role that Research & Development (R&D) portends for the country’s nuclear power programme. In the implementation of its R&D function, NuPEA is developing the requisite infrastructure for sustainable nuclear R&D. Key among these is the implementation of the Kenya Nuclear Research Reactor (KNRR) project. The project is being implemented by a multidisciplinary and multisectoral TWG that was formed from the stakeholder institutions, and provided technical input in undertaking the feasibility study. NuPEA plays the role of coordinating and facilitating the study.

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Research reactors are nuclear reactors that serve primarily as a neutron source for research and various applications, including education and training. Nuclear research reactors, unlike nuclear power plants, are designed and utilized for non-power generation applications in the fields of education and training, industry, health, agriculture amongst others. Despite Kenya having no research reactor facility, products and services of RRs are widely utilized locally in various fields. These products and services are imported from various countries with advanced RR and related programs. Local ownership and operation of a RR is envisaged to improve timely access to and ensure affordability of RR products and services in Kenya.

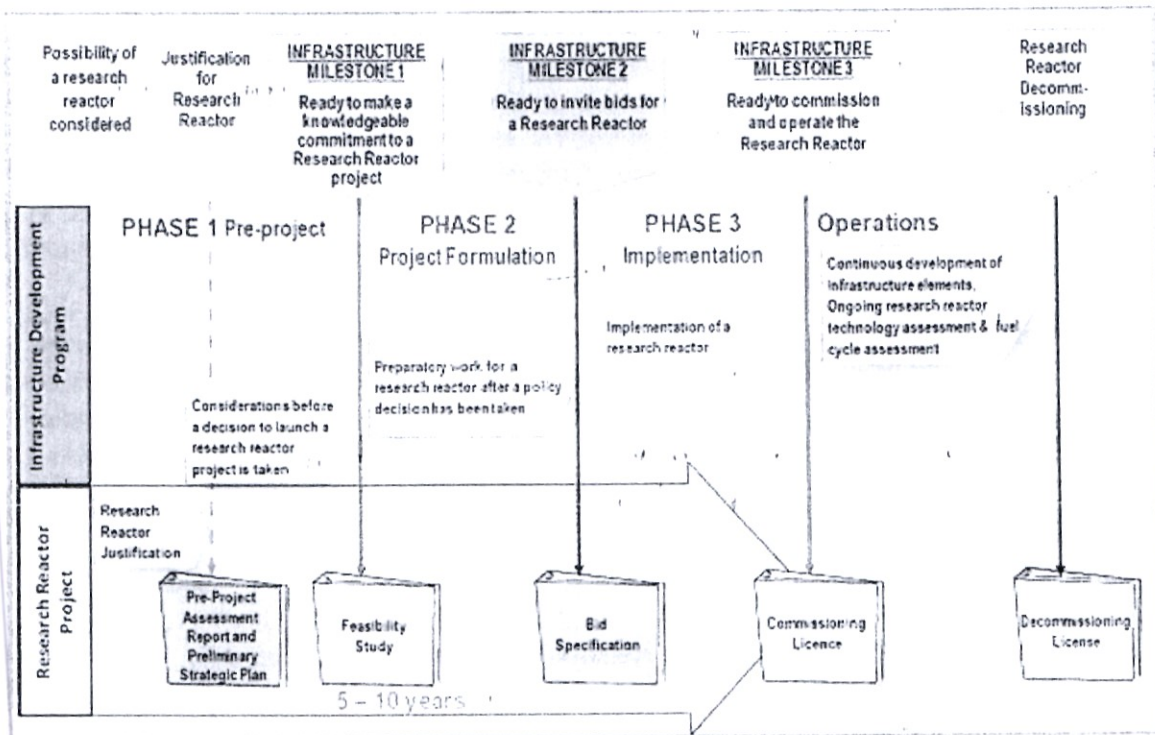
Research reactors offer a diverse range of applications, such as neutron beam research for material studies and non-destructive examination, Neutron Activation Analysis (NAA) to measure minute quantities of an element, radioisotope production for medical and industrial use, neutron irradiation for materials testing for fission and fusion reactors, neutron transmutation doping of silicon, among others. Another important area where research reactors have a large contribution is education and training in all nuclear technology areas for operators, maintenance and operational staff of nuclear facilities, radiation protection personnel, regulatory personnel, students, researchers as well as public information.

The Government, through the Konza Technopolis Development Authority (KOTDA), has allocated 65 acres of land for the project implementation. The Feasibility study has been finalized and will undergo an acquisition of national approval and budget plan before construction of the project commences. The nuclear RR is expected to be commissioned in 2030.

In the implementation of the RR project, Kenya is guided by the IAEA's Milestone Approach. The Milestone Approach represents a sequential three phase development of 19 infrastructure issues and the completion of work at each phase forms the basis of evaluation and decision making on whether to proceed to the next phase. NuPEA has carried out a preliminary self-evaluation of KNRR project against the phase one requirements in the milestone approach and plans to host a phase 1 Integrated Nuclear Infrastructure Review for Research Reactors (INIR-RR) Mission from 11th to 19th December 2023. The INIR-RR is a holistic review mission by the IAEA to assess the status of national infrastructure for RR projects. The self-evaluation report will be used as a basis for Phase 1 INIR-RR Mission. 3

The three project phases of development and their corresponding milestones are shown schematically in Figure 4.





(iii) Energy and Petroleum Research & Development and Capacity Building

NuPEA is mandated to coordinate the implementation of research and development, and capacity building for the energy and petroleum sectors necessitates building of capacity for all forms of energy (current and future).

Efficient implementation of additional mandates will be achieved through the following;

- Promotion of local, regional and international participation in research activities
- Development of a roadmap for national research and human resource development to assess the status of research in key energy technologies;
- Promotion of local production of energy technologies;
- Enhanced research linkages between industry and academia in energy matters
- Promotion of energy research and technology innovation;
- Improved collection and dissemination of information in connection with research, development and innovation in the energy sector.

The importance of coordinated approach to Energy R&D and Capacity Building

In Kenya, energy capacity building and R&D has mainly been undertaken in a segregated manner by the various institutions in the energy and petroleum sectors. The lack of a coordinated approach in energy R&D and capacity building has resulted in inadequate research, development and deployment in the energy sector research; low funding for research and development; overlaps and

inefficiencies in allocation and utilization of resources; inadequate promotion of local content development in the energy sector; and weak linkages between the energy sector institutions, industry and academia.

NuPEA's new mandate incorporates the critical role of coordinating effective implementation of energy research, development and capacity building in the energy and petroleum sectors in Kenya towards enhancing prioritization of critical thematic areas, optimal mobilization and utilization of adequate resources and minimizing and eventually eliminating overlaps, duplication and inefficiencies in energy R&D and capacity building.

The effective implementation of the coordination role, requires acquisition of specialized competences in all forms of current and future energy sources. In order to successfully establish competencies for effective management of the new role, the terms and conditions should behold competitiveness in nature and terms of service. The research reactor projects is envisioned to provide numerous benefits for Kenya. It will provide an avenue to increase R&D programmes to enhance Kenya's capability to implement the nuclear power programme successfully and increase the ability/capacity for national and industrial participation. The implementation of the KNRR project will play a key role in the realization of the objectives of the Kenya Vision 2030 and Bottom-Up Economic Transformation Agenda through its utilization in health, agriculture, industry and research.

4. NuPEA ACHIEVEMENTS IN THE IMPLEMENTATION OF THE MANDATE

For the past ten years, since inception, NuPEA has undertaken activities in the development of the 19 major infrastructure issues for the nuclear power programme for Kenya. The major achievements that have been recorded through NuPEA as a Semi-Autonomous State Agency are as follows:

3.1 Kenya Nuclear Power Programme

NuPEA has undertaken significant steps towards the introduction of the first NPP(s) in Kenya. In 2013 a pre-feasibility study for the nuclear power programme was conducted to evaluate the status of the 19 infrastructure issues and identify possible gaps. The pre-feasibility study report was the anchor document adopted towards a technical decision for the country to proceed with the nuclear power program. Upon completion of the prefeasibility study, a 15-year strategic plan to serve as a roadmap to guide in the development of the infrastructure issues and address the gaps identified in the pre-feasibility study report.

3.1.1. Comprehensive International Expert Review of Kenya Nuclear Power Programme

NuPEA undertook development of the 19 infrastructure issues necessary for successful implementation of the nuclear power programme based on international best practices. The progress of these infrastructure for completion of phase 1 for the nuclear power programme were evaluated by an IAEA integrated nuclear infrastructure Review Mission. The independent international expert review outcome indicated that significant progress has been made on the development of most infrastructures thus enabling the country to be recognized as a Phase II



country after successful attainment of Milestone 1 of nuclear power programme development. The following comments were made, by the IAEA expert review team, on the considerable progress made by Kenya in its nuclear power programme:

1. Kenya enacted a national nuclear law and created a Regulatory Body with clear responsibilities for Nuclear Safety, Security and Safeguards;
2. The Government assessed its legal framework and identified other laws needing review;
3. Kenya also developed a number of policies and strategies to enable the Government to make an informed decision on the introduction of nuclear power;
4. Coordination between the main stakeholders was enhanced through the establishment of various Technical Working Groups with members drawn from the relevant institutions;
5. Kenya finalized the site selection activities, identifying one preferred and one alternative site.

In addition, the expert commended the following good practices showcased by Kenya in the implementation of its programme:

1. Kenya prepared a comprehensive pre-feasibility study report, with strong national involvement, which considered all 19 infrastructure issues and provided clear recommendations for further action. This will assist the country in making a knowledgeable decision about the introduction of nuclear power.
2. Kenya has identified the activities that need to be funded for the development of its nuclear power infrastructure, which will allow the country to make an early evaluation of the cost of the required infrastructure.
3. Kenya has recognized the importance of capacity building in making a notable investment in the development of its human resources across a number of competence areas relevant for nuclear power. This has contributed to the quality of the activities undertaken in Phase 1 and will facilitate the implementation of Phase 2.
4. Kenya undertook early public opinion polling to identify the main interests and concerns of stakeholders regarding nuclear power. This was used to guide the development of a comprehensive communications strategy, including activities, messages and preferred media.

3.1.2. Nuclear power plant Site selection

The Energy Act established NuPEA to spearhead the development of nuclear energy for the purpose of production of reliable and affordable electricity for sustainable industrial development for economic growth. Consequently, NuPEA is charged with the mandate of conducting outreach programs, stakeholder awareness creation and engagement, identification of sites for nuclear power plants and capacity building.

Site Studies in Kenya officially commenced in 2012 upon the establishment of the Kenya Nuclear Electricity Board (KNEB), the forerunner of NuPEA. The studies were undertaken to support the Pre-Feasibility Study for Kenya's NPP program. KNEB established a Technical Working Group (TWG) consisting of a team of the former Kenya Nuclear Electricity Board (KNEB) staff and



representatives from key stakeholder institutions, which adopted the criteria and best practices in NPP Siting from established nuclear states. In February 2016, a national Site Selection Team (SST) composed of experts from NuPEA and relevant government institutions was constituted to finalize the site selection process in Kenya. The SST developed the “Criteria for Siting of Nuclear Power Plants in Kenya”. document based on the IAEA Safety Guide No. SSG-35, to guide the siting of nuclear power plants in Kenya. The team undertook siting activities according to the roadmap shown.

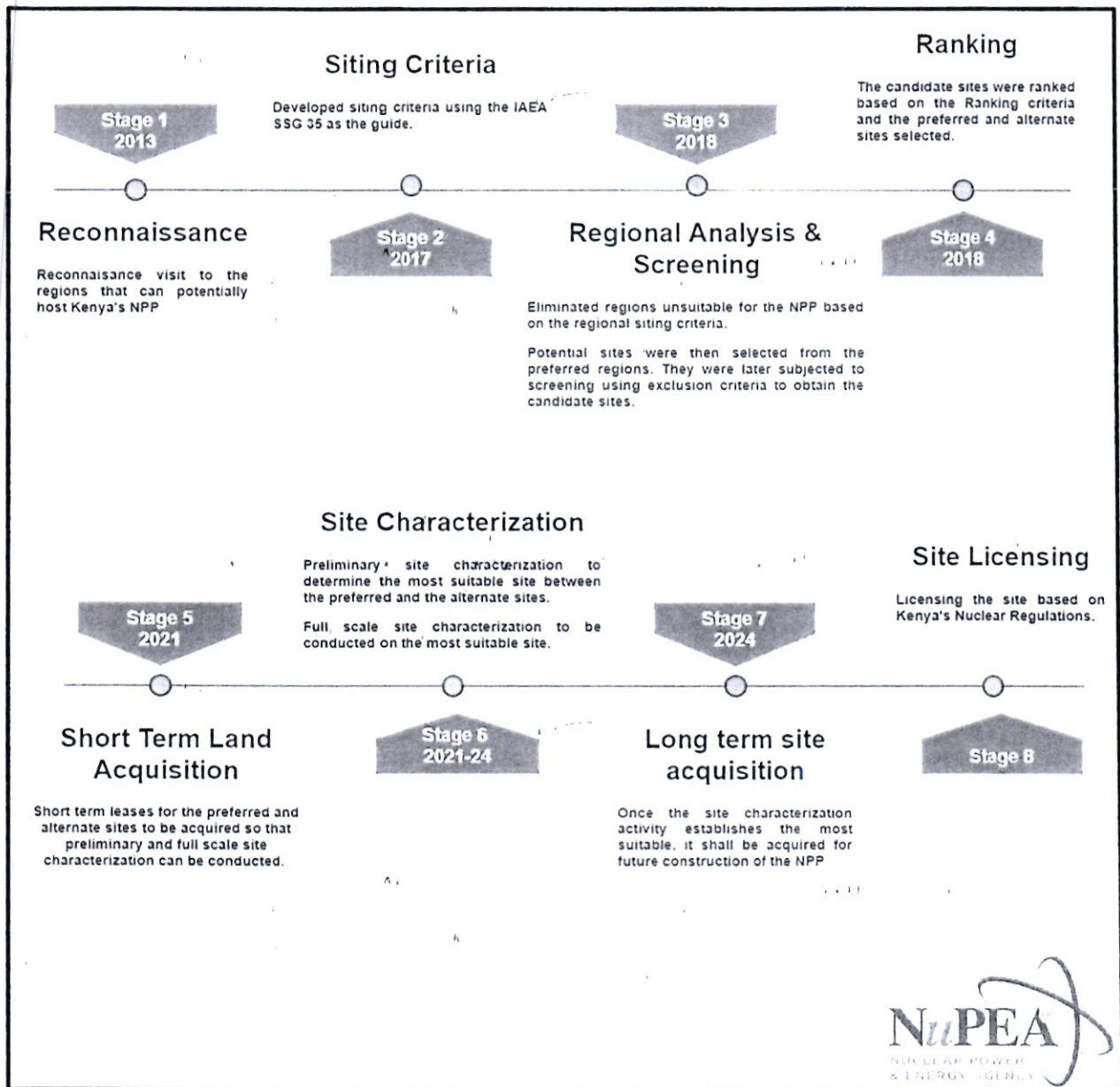


Figure 6: Nuclear Power Plant Siting Roadmap

The Site Selection Team (SST) identified the best and the alternative sites in the coastal region following a site selection process that took place from 2014 to 2020 making it a priority area for Kenya's nuclear power programme. The team conducted the site selection activities in accordance

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with the guidelines of the International Atomic Energy Agency (IAEA) stipulated in SSG-35, Criteria for Site Selection of Nuclear Facilities. The IAEA has since conducted two Site and External Events Design (SEED) Missions to evaluate whether the process conducted by the SST was in accordance with the IAEA. These two expert missions generated a number of recommendations which were taken into consideration in the latest site selection reports. Some of the recommendations include conducting of geotechnical programs at the best and alternative site, setting up a meteorological tower to collect meteorological data, emergency planning at the site and improvement of the Terms of Reference for Site Characterization in accordance with the IAEA SSR-1 guideline, Site evaluation for nuclear facilities.

3.1.3 Establishment of Coast Regional Office in Mombasa

The Agency has established and operationalized a regional office in Mombasa to coordinate the next steps of site assessment which include site characterization (conduct of geotechnical, meteorological and geophysical studies), and establish a center for communicating matters regarding nuclear power. This is in accordance with the guidelines of the IAEA and best practice amongst all countries that utilize nuclear power. This is also in line with the nuclear power program progression from policy to operational levels that require a dedicated institution to oversee the process of characterization and upgrade of the site to ascertain and improve its suitability.

3.1.4 Capacity Building for the Nuclear Power Programme

The independence of NuPEA has enabled it to enter into agreements and collaboration with leading local and international institutions to provide short term and long-term training on nuclear power programme human resource development. The engagement and collaboration have led to the training of over 600 Kenyans on nuclear related courses and attainment of over 66 trained Kenyans specializations in nuclear power plants engineering, nuclear and reactor physics, energy economics and policy. This was done in collaboration with the International Atomic Energy Agency (IAEA) and Governments of the United States of America, Republic of Korea, China, Russia, Slovakia among others.

3.1.5. Public Communication, Information, Education and Stakeholder Engagement.

Engagement of the public in major projects undertaken in Kenya is a requirement for the success of such projects. NuPEA has undertaken various stakeholder forums and outreach activities targeting counties, local universities and schools. A consumer dialogue webinar was held in partnership with the Consumer Federation of Kenya (CoFEK) drawing participants from various counties in Kenya. A campaign in the broadcast media – three television stations and seven radio stations – was conducted for awareness creation on NuPEA's mandate and nuclear energy. The 2019 Africa Nuclear Business Platform (an international conference that brought together a diverse range of participants including key stakeholders across the nuclear supply chain including the African NPP stakeholders, government, regulators, Nuclear Steam Supply System (NSSS) vendors, construction companies, technology companies, supply chain companies, law firms, and financial firms) was held in October 2019 in Nairobi, Kenya to provide a platform for knowledge exchange and bench-marking on nuclear energy development.



3.1.6 Regulatory and Legislative Framework

NuPEA led the process for the enactment of the Nuclear Regulatory Act 2019 by the Kenyan Parliament in fulfilment of the mandate as stated in the Energy Act 2019 Art. 56 Sub art. 2(a). NuPEA has officially proposed a list of urgent regulations to KNRA and developed national nuclear policy for: nuclear security and physical protection, radioactive waste management; nuclear fuel cycle; and the national nuclear energy policy which is at an advanced stage of development.

3.1.7 Strategic Environmental Social Assessment

Strategic Environmental and Social Assessment (SESA) a key means of integrating environmental and social considerations into policies, plans and programs, and with regards to Environmental protection, NuPEA has demonstrated its commitment to promoting the use of SESA as a tool for sustainable development. Under regulation 42(1) and (3) of Environmental Management and Coordination Act of 1999 (Rev. 2015) requires the lead agencies in consultation with the National Environment Management Authority (NEMA) to subject all public Policies, Plans and Programs, (PPPs) to SESA.

NuPEA has conducted a Strategic Environmental Social Assessment (SESA) Study. The Report was subjected to internal and External review by relevant stakeholders and submitted to NEMA. Upon receipt, NEMA together with the Agency submitted the SESA report to the stakeholders and the public to submit comments. With the approval of NEMA, the agency has held regional workshops in Nyanza, Western and Coastal regions to validate the SESA report.

Table 3 highlights the summary of progress made in the development of the nuclear power programme infrastructure issues in Kenya.

Table 3: Summary of Progress Made in the implementation of the Nuclear Infrastructure issues

Infrastructure Issue	Implementation by the Agency
1. National Position	<ul style="list-style-type: none">i. Nuclear power safety, security and non-proliferation needs have been recognized and plans to ratify several conventions initiated.ii. A Cabinet memorandum on accession to nuclear safety conventions was prepared and key nuclear security conventions have been ratified.iii. Development and adoption of the National Energy Policy that formally introduces nuclear into the national energy mix.iv. Establishment of NuPEA through the Energy Act, 2019.



2. Security and Physical Protection	<ul style="list-style-type: none"> i. Inclusion of Nuclear Security in the Nuclear Regulatory Act of 2019, Part XIV has provisions for threat assessment, responsibility for physical protection, international cooperation and assistance, protection of confidential information and offences relating to nuclear facilities. ii. Coordinated the ratification to the Amendment to Convention on the Physical Protection of Nuclear Material (2016). iii. Coordinated the review of the Draft Security of Nuclear Material and Associated Facilities Regulations 2021. iv. Organised multiple trainings of stakeholders with responsibility for nuclear security in: nuclear security culture, threat assessment, insider threat mitigation and development of nuclear security regulatory infrastructure. Over 30 participants from security agencies, regulatory body, and NuPEA have been trained.
3. Nuclear Safety	<ul style="list-style-type: none"> i. Initiation of the ratification process for four nuclear safety conventions. ii. Development of the leadership and management framework for safety iii. Developed the Nuclear Safety Policy and Strategy.
4. Management	<ul style="list-style-type: none"> i. Built competencies for leadership and management for the Nuclear Power Programme. ii. Implemented a Quality Management System (QMS) and an integrated management system for the nuclear power programme.
5. Funding and Financing	<ul style="list-style-type: none"> i. Undertook the study on costs of developing the major elements of nuclear infrastructure in order to inform the Government of future budgetary requirements. ii. Conducted financial modelling to inform the Government on potential financing and ownership options
6. Legislative Framework	<ul style="list-style-type: none"> i. The Government has acceded to the integral conventions in the areas of nuclear security and non-proliferation and enacted nuclear regulatory law. ii. Nuclear energy regulations are under development under the guidance of KNRA and participation of NuPEA
7. Safeguards	<ul style="list-style-type: none"> iii. Undertook a comparative review of safeguards approaches iv. Collaborative agreements with international organization on safeguards agreements, such as the US Foundational Infrastructure for Responsible Use of Small Modular Reactor Technology (FIRST) programme. v. Developed a plan for enhancing the State's system of accounting for and control of nuclear material
8. Radiation Protection	<ul style="list-style-type: none"> i. Collaborated in the development of The Nuclear Regulatory Act, 2019 which has introduced measures designed to enhance existing radiation protection requirements. ii. Determined additional hazards resulting from the introduction of the nuclear power plant and recommended how existing radiation protection programmes

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	<p>will need to be enhanced to address nuclear power plant operation, transport, storage and radioactive waste management.</p> <ul style="list-style-type: none"> iii. Developed a radiation Protection framework for nuclear power programmes in line with the International basic safety standards. iv. Developed guides for development of regulations for radiation protection framework based on the International Atomic Energy Agency Safety Guide SSG.
9. Regulatory Framework	<ul style="list-style-type: none"> i. Collaborated in the development of the Nuclear Regulatory Act 2019 which established Kenya Nuclear Regulatory Authority as the nuclear regulatory authority for the nuclear power programme. ii. Identified resource requirements and competencies necessary for the nuclear regulatory body iii. Undertook an international expert review Mission (Integrated Regulatory Review Service) on the regulatory services for Kenya
10. Electric Grid	<ul style="list-style-type: none"> i. Undertook electrical grid integration study for inclusion of nuclear energy in the energy mix. This study provided the possible grid interconnection schemes for the preferred and alternate NPP sites. ii. Undertook an economic analysis for the necessary grid upgrades for integration of a Nuclear Power Plant to the grid. iii. Undertook capacity building on electric grid power systems analysis on PSS/E software.
11. Human Resource Development	<ul style="list-style-type: none"> i. Developed a Nuclear Power Human Resource Development Concept Model in Stella Architect to simulate the projected national workforce. ii. Mapped 22 Training and Educational Institutions in the Coast, Nairobi, Rift and Western Regions to monitor their training potentials vis a vis and readiness to incorporate nuclear specific training programmes in their curriculums. iii. Developed a national human resource gap assessment report to show gaps in workforce numbers and competence in reference to NPP work force requirements. iv. Developed a Human Resource Development Guide document, that shows the current training and educational capacity of the country. v. Conducted capacity building on HRD technical working groups in collaboration with the IAEA.
12. Stakeholder Involvement	<ul style="list-style-type: none"> i. Developed and implemented a comprehensive Communication Strategy and public education programme ii. Undertook public engagement and communication activities

<p>13. Site and Supporting Facilities</p>	<ul style="list-style-type: none"> i. Established a national Site Selection Team (SST) for nuclear installations and developed the Criteria for siting of nuclear installations in Kenya based on the International Atomic Energy Agency (IAEA) Safety Guide SSG-35. ii. Undertook a general survey of nuclear power plant potential regions in Kenya, and identified potential sites in each region. iii. Undertook screening of potential nuclear power plant sites, ranking of candidate nuclear plant sites and identified one Preferred and one Alternate site for Kenya's nuclear power plant. iv. Undertook two IAEA Site & External Events Design (SEED) Expert Missions on site survey and site selection for Nuclear Power Plants in Kenya. v. Undertook an IAEA Advisory Site & External Events Design (SEED) Mission on the Scope of Site Characterization for nuclear power plants in Kenya. vi. Developed Terms of Reference (ToRs) an Implementation Plan for Site Characterization at the Preferred & Alternate nuclear power plant sites. vii. Established a National Land Access Committee (LAC) which has commenced land acquisition at the Preferred nuclear power plant Site, in collaboration with the Ministry of Lands & Physical Planning and the National Lands Commission viii. Established a Coast Regional Office at Mombasa City to enable stakeholder engagement at the nuclear power plant potential Host Counties, and to be a coordination centre for the Site Characterization work at the Preferred nuclear power plant site. ix. Submitted an application to NEMA for the installation of site monitoring equipment (100m meteorological tower and a broad-band seismic monitoring station) at the Preferred NPP site in Kilifi to collect site-specific data to be included in the Bid Invitation Specifications (BIS) for the design of the proposed Kenya nuclear power plant.
<p>14. Environmental Protection</p>	<ul style="list-style-type: none"> x. Undertook the Strategic Environmental Assessment (SEA) for the Nuclear Power Programme. xi. Proposed the amendment of the Environmental Management and Coordination Act, 1999 to include nuclear reactors and nuclear power plants as one of the projects requiring Environmental Impact Assessment. xii. Collaborated with the International Atomic Energy Agency and conducted capacity building on environmental (and radiological) impact assessment for NEMA, Kenya Nuclear Regulatory Authority (KNRA), NuPEA and Kenya Electricity Generating Company. xiii. Collected and analysed baseline environmental data for nuclear power plant site selection. xiv. NuPEA is in collaboration with KNRA and NEMA to develop environmental impact assessment requirements and procedures specific to nuclear power plants and related facilities. xv. Submitted a Comprehensive Project Report (CPR) to National Environmental Management Authority (NEMA) for the proposed installation of a 100m meteorological tower and a broad-band seismic monitoring station at the Preferred NPP site in Kilifi County collect site-specific data to be used for environmental baseline monitoring for the Kenya nuclear power plant (KNPP).

<p>15. Emergency Planning</p>	<ul style="list-style-type: none"> i. Inclusion of Emergency Preparedness and Response in the Nuclear Regulatory Act of 2019, Part IX has provisions including the Role of the Regulator, Emergency preparedness and response plan and trans-boundary nuclear or radiological emergency. ii. Evaluated national emergency preparedness and response capability for nuclear and radiological emergency through international expert review mission (IAEA Emergency Preparedness Review Services) iii. Developed Standard Operating Procedures for nuclear and radiological emergencies to be annexed in the National Emergency Response Plan reviewed in September 2021 iv. Assessed the requirements and resources needed for preparedness and response to nuclear power plant emergencies v. NuPEA in coordination with the relevant National Organizations is ensuring that adequate arrangements and capabilities are in place prior to commissioning of the nuclear power plant for an effective response to resulting emergencies. This is captured in an Action Plan (Revised 2022/2023) that addresses any gaps following recommendations from the IAEA Emergency Preparedness Review Mission.
<p>16. Nuclear Fuel Cycle</p>	<ul style="list-style-type: none"> i. Assessed suitable fuel cycle options for Kenya's Nuclear Power Programme has been undertaken and Nuclear Fuel Cycle Policy and Strategy have been developed. ii. Undertook Reactor Technology Assessment for both Large NPP and Small Modular Reactors and developed User Requirements for the technologies iii. Assessed reactor vendor/developers readiness for the deployment of nuclear power plant in Kenya iv. Conducted integration of nuclear and other energy options for Kenya's energy mix. v. Conducted an evaluation of Nuclear Energy System Options. vi. Capacity building on nuclear fuel cycle has been ongoing in collaboration with IAEA vii. Developed a framework approach on economic assessment of NFC viii. Material balance/flow modelling ongoing ix. Developed a technical document on front-end of the nuclear fuel cycle
<p>17. Radioactive Waste</p>	<ul style="list-style-type: none"> i. Developed a nuclear Policy and Strategy for Radioactive Waste Management ii. Capacity building on radioactive waste management has been ongoing in collaboration with IAEA iii. Developed a technical document on Solutions for The Back-End of the Nuclear Fuel Cycle



18. Industrial Involvement	<ul style="list-style-type: none"> i. Developed the Industrial Involvement Guide Report which highlights the framework necessary to meet the needs of Industrial Involvement within the three phases of the Nuclear Power Plant development. ii. Carried out a national industrial capability survey on various potential supply categories in various regions of the country. iii. Developed a localization assessment model to determine the optimum participation level of the local industries/suppliers (localization percentage) iv. Carried out various capacity building initiatives (national workshops, training courses, and participation in technical meetings) in conjunction with the IAEA v. Developed a draft industrial involvement policy. vi. Conducted a risk assessment for the national/local supply base involvement in the nuclear power programme. vii. Carried out capacity building for the supply chain players through an industry forum and various industrial visits on the related nuclear power programme opportunities.
19. Procurement	<ul style="list-style-type: none"> i. Developed a guide report to nuclear procurement for Kenya's Nuclear Power Programme, that identifies the unique requirements of nuclear procurement using IAEA guidelines and highlights national laws and regulations that govern procurement of the power plant. ii. Developed a manpower needs assessment report that highlights competencies required to carry out the procurement function in NEPIO and Owner/Operator iii. Developed a draft nuclear procurement policy iv. Carried out various capacity building initiatives in conjunction with National Treasury and the IAEA.
20. Nuclear Knowledge Management	<ul style="list-style-type: none"> i. Developed knowledge management policy. ii. Developed and established a Nuclear Knowledge repository and library
21. Nuclear Research and Development	<ul style="list-style-type: none"> i. Developed a Nuclear Research and Development Policy and Strategy ii. Undertook feasibility study for Kenya Research reactor projects to be constructed at Konza Technopolis. iii. Land acquisition process for the project is ongoing at Konza Technopolis iv. Fast tracked participation of Kenya in the IAEA Internet Reactor Laboratory,

3.2 Nuclear Research and Development

The Sector Plan for Science, Technology and Innovation (2013-2017) identified the need to establish a Centre for Nuclear Research for Peaceful Applications as one of its projects. The project foresees the establishment of a premier nuclear research facility, which will be a multi-disciplinary research centre with extensive infrastructures for advanced research and development. The core mandate of the Research Centre will be to sustain peaceful applications of nuclear energy for power generation, isotope production in industries, groundwater resource management, supplying medicine for cancer treatment and agricultural applications, among other uses among others.



Further to this, NuPEA has developed a preliminary prospectus for the establishment of the Nuclear Research Centre of Kenya. KNRR will be the heart of the Nuclear Research Centre (NRC) which is envisioned to be the centre for education and training as well as technical support for the nuclear power programme. While KNRR is expected to be operational by the end of 2030, the NRC is expected to be operational by the end of 2035. The main function of NRC are proposed to include the following technical areas:

1. Education and training
2. Radiation science and service
3. Basic research
4. Technical support to NPP
5. Strategic support for government

The recommended R&D facilities to be used for performing the functions of NRC include:

1. Nuclear Training Centre (NTC)
2. KNRR (Kenya Nuclear Research Reactor)
3. Gamma Irradiation Facility
4. Electron Beam Irradiation Facility (EBIF)
5. Trial Breeding Farm and its ancillary facilities
6. Medical Cyclotron (MC)
7. Ion Beam Accelerator Facility (IBAF)
8. Laser Research Facility for isotope separation (LRF)
9. SSDL (Secondary Standard Dosimetry Lab)
10. Radio-Chemistry Laboratory
11. Building for Engineering Support Activities
12. Thermal-Hydraulic Experimental Facility (THEF)
13. Fuel and Material Examination Facility (FMEF)
14. Support Facilities

NuPEA has developed a feasibility study report for a 5 MW KNRR project that captures the results of preliminary studies for establishment of a research reactor including: infrastructure assessment report, justification report, preliminary strategic plan, financial and cost benefit analysis, and preliminary site investigation report. The KNRR is expected to be operational by the end of 2030

NuPEA has developed a preliminary prospectus for the establishment of the Nuclear Research Centre of Kenya. The NRC is expected to be operational by the end of 2035.

The NRC and KNRR projects are planned to be constructed at Konza Technopolis on sixty-one (61) acres of land. Land acquisition for the research reactor at Konza is ongoing.

NuPEA Fast tracked participation of Kenya in the IAEA Internet Reactor Laboratory.

The major activity that has been carried out so far is to conduct the feasibility study to evaluate key elements essential for sustainable implementation of a research reactor project in Kenya. Specifically:

- Identified and quantified stakeholder needs



- Developed preliminary functional requirements and technical specifications for a proposed RR facility in collaboration with KAERI
- Conducted site survey at Konza Technopolis for the research reactor in collaboration with KoTDA
- Conducting financial and economic Cost-Benefit Analysis of the research reactor project in collaboration with KIPPRA
- Assess the national nuclear infrastructure to support the research reactor project in preparation for an IAEA INIR-RR mission
- Identification of potential/suitable human resource development and project management requirements/options
- Developed the research reactor project schedule
- Developed risk management framework for the RR project

Summary of Commitments/Obligations for KNRR Project

The success of the R&D programme is dependent upon government and stakeholder commitment as well as alignment to internal policies, strategies, capacities, environmental conditions and needs of the country. The KNRR project requires commitments from the national government and other stakeholders to ensure provision of financial, technical and human resources to support all phases of the project. The following collaborations and partnerships have been established towards this end;

- NuPEA has partnered with the Kenya Institute for Public Policy Research and Analysis (KIPPRA) in carrying out financial and economic cost benefit analysis for the research reactor project which aims at assessing the viability of the project and developing a business plan.
- The government of Kenya has commenced discussions with the government of the Republic of Korea on viable financing options for the KNRR project. The first meeting was held on 20th January, 2020 between National Treasury and Korea Eximbank and further discussions are anticipated.
- NuPEA has established a partnership with Korea International Cooperation Agency (KOICA)
- NuPEA has entered into collaboration with KoTDA on siting of a 5MWth research reactor at Konza Technopolis. Preliminary Research Reactor siting studies have been conducted by NuPEA's site selection team and 61 acres of land at Konza Technopolis reserved for the project, with full allocation expected upon finalization of application and approval processes.
- NuPEA Partnered with the Korea Atomic Energy Research Institute (KAERI) in conducting the feasibility study through an MoU on technical cooperation in Research and Development in Nuclear Energy. The cooperation involves capacity building and joint studies on the research reactor project.
- NuPEA is participating in the IAEA regional Technical Cooperation Project (RAF2021001) with the IAEA to Support Embarking Countries in Establishing National Infrastructure for Research Reactors. The project is aimed at enhancing human, technical and institutional capacity for the research reactor programme.
- Kenya is participating in the IAEA Internet Reactor Laboratory programme which is hosted by Kenyatta University.

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3.2.1 Internet Reactor Laboratory Project in Kenya

The IAEA Internet Reactor Laboratory (IRL) is an e-learning tool and platform for training young scientists and engineers on reactor physics. The IRL is a platform that provides access to a distance-learning laboratory in an existing research reactor facility. The tool enables live immersion into reactor technology and operation in a remote location by linking a host reactor with university classrooms in other countries. The project is not a replacement for hands-on training but a cost-effective way to provide students with concrete practical experience. Students can participate in real time in the reactor experiment, interact with the operating team and collect real-time data. This can be analyzed instantaneously or off-line.

The progress made so far in the project are as follows:

- On 1st March 2018, an agreement was signed in Vienna, Austria, which will enable students from Africa to get online access to the facilities of a research reactor in Morocco for the purpose of nuclear education and training. Morocco's National Centre for Nuclear Energy, Science and Technology (CNESTEN) will make its MA-R1 TRIGA research reactor available to students of nuclear engineering and nuclear physics in Kenya, Tanzania, Tunisia and South Africa.
- On 9th September, 2019 Kenyatta University signed an agreement with the IAEA at the IAEA headquarters in Vienna, Austria during the General Conference 2019. The Agreement is for official commencement of the IRL project at the University.
- From 22nd to 26th November 2021, the IAEA held an Orientation Workshop to Launch the IRL with a New Host for Africa in Rabat, Morocco. The purpose of the workshop is to bring together participants from host and guest institutions of the IRL that offer access to experiments as part of academic courses to share information on existing academic programmes, and share experiences and lessons learned with regard to integrating these experiments; and to train the participants in the technical, pedagogical and logistic aspects of the transmission of experiments from the host reactor.
- Since January 2022, Kenyan students receive real time signals of the reactor experiment, interact with the operating team in Morocco and collect real-time data which can be analyzed instantaneously or off-line.

5. IMPORTANCE OF NuPEA AS A SEMI-AUTONOMOUS GOVERNMENT AGENCY

5.1. Kenya's Leading Role in Africa Nuclear Development Agenda.

Any country embarking on the deployment of a Nuclear Power Plant is required to establish a Nuclear Energy Program Implementation Organization (NEPIO) to coordinate all activities related to the 19 nuclear infrastructure issues. As illustrated in fig 7. the most advanced nuclear power programmes in Africa are those with stand-alone agencies leading the development. Kenya's nuclear power programme is rated fifth out of fifteen African countries in the nuclear development race, based on the progress in development under the IAEA milestone approach model.

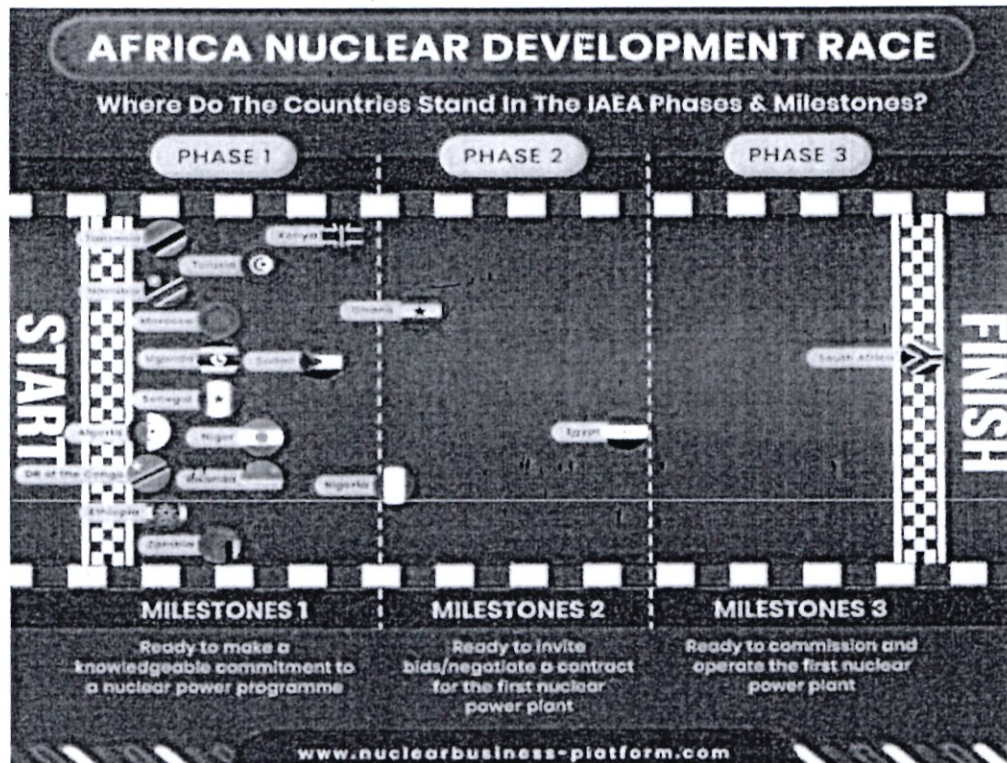


Figure 7. Africa Nuclear Development Race (Nov.2021).

The Kenya nuclear power project has been in existence since 2010. Being a first of a kind (FOAK) project in Kenya, it necessitated the formation of a special purpose vehicle to drive it. The nuclear sector is akin to the aviation industry with regards to the safety requirements. Nuclear power has a low probability-high consequence risk profile that requires a dedicated team to focus on efficient implementation of the nuclear programme.

NuPEA has advanced in developing the nuclear program in Kenya. The Agency has since carried pre-feasibility and feasibility studies; extensive nuclear capacity building (still ongoing) in which the staff of energy sector entities and nuclear sectors in the country have been trained in nuclear engineering and energy policy. A human resource development strategy has been developed, the proposed nuclear power plant site identified and is in the final stages of site land acquisition. A regional office has been established to engage the relevant stakeholders in potential nuclear power plant host counties and to aid in conducting the preliminary and detailed site characterization studies in the region.

Significant strides have been made in building a nuclear-dedicated human capacity which has ably and diligently progressed the program with the IAEA's guidance. Abolishment of the Agency would significantly slow down the momentum of the programme.

5.2. Role of NuPEA as the National Liaison Office

Kenya has been a member of the International Atomic Energy Agency (IAEA) since 1965 and has benefited tremendously from technical cooperation programmes. Every member state of the IAEA is required to establish a National Liaison Office (NLO). NuPEA is the country's NLO, the office

charged with the duty of managing, coordinating and implementing IAEA sponsored projects and programmes in all fields of peaceful uses of nuclear science and technology in Kenya.

In executing the nuclear power programme, NLO plays a pivotal role in ensuring optimal performance of the IAEA technical cooperation programme towards implementation of three of the five sectors that form the core pillars of the Bottom-Up Economic Transformation Agenda (BETA). Additionally, other sectors of the economy benefit from NuPEA's efficient coordination of nuclear energy applications in the country;

- a) In Human Health, NuPEA has supported the building of infrastructure and capacity building for cancer diagnosis and treatment through establishment of cancer centers in four national referral hospitals
- b) In agriculture, NuPEA has facilitated research into production of varieties of seeds that can withstand drought and diseases and produce high yields. Additionally, improved animal forage has been produced to enhance production of beef and milk;
- c) The Micro, Small and Medium Enterprise (MSME) economy will be positively impacted by implementation of the nuclear power plant project through the numerous opportunities that will be provided for both large and MSMEs that will possess capabilities that meet nuclear requirements to supply the required goods and services. Local suppliers including engineering companies; manufacturing companies; civil construction and system assembly companies; services; and operation and maintenance companies will be involved during the construction and commissioning of the nuclear power plant and the plant operation phase.
- d) In manufacturing, NuPEA has facilitated the establishment of a second dosimetry laboratory at the Kenya Bureau of Standards (KEBS) and calibration improvement to meet international standards in industry.
- e) Water Resource Management has also been improved through introduction of nuclear techniques in mapping of water resources to improve water management in the country. All these projects are geared towards achieving national development objectives through peaceful application of nuclear technology.
- f) NuPEA is coordinating the development of the Kenya Nuclear Research Reactor (KNRR) project in Konza Technopolis. The project is envisaged to accelerate economic development and improve quality of life through the application of nuclear energy technology in scientific research, industry and healthcare as outlined under BETA. The KNRR has wide applications in education and training, health, industry, energy, and research. The main utilizations envisaged include: enhancing national research and development capabilities and intergovernmental collaborations; improving and encouraging industrial competitiveness; enhancing material structure study for various applications; production of radioisotopes for medical and industrial applications; improving calibration and testing services for industrial and medical instruments; and education and training of students and staff of various institutions.

5.3. Role of NuPEA in Implementation of the Vision 2030

NuPEA, being the Nuclear Energy Programme Implementing Organization (NEPIO), has an important role to play in attainment of Vision 2030 aspirations by enhancing access to clean,



affordable, reliable and efficient energy in the country. Within the Vision 2030, energy is recognized as a key enabler to the implementation of the flagship projects which will lead to increased power demand. NuPEA is also expected to play a critical role in accelerating economic development by raising productivity and efficiency levels across the three pillars through coordination of research and development (R&D) and capacity building activities/ initiatives in the energy and petroleum sectors.

Kenya's Nuclear Power program has been on a positive trajectory due to strong government support as a semi-autonomous nuclear implementing agency. The Agency is working in collaboration with all national and international stakeholders to ensure full implementation of the program safely and securely. Nuclear is playing a crucial role in the realization of Kenya's vision 2030.

NuPEA is implementing two Vision 2030 Programmes, namely;

- a) Nuclear power programme – first nuclear power plant to be commissioned in 2034
- b) Research Reactor Programme – first nuclear research facility to be commissioned in 2030

5.4. Role of NuPEA in Coordinating and Implementing Kenya's International Obligations

a. Under IAEA Auspices

Kenya, as a member state of the International Atomic Energy Agency, is expected to perform its international obligation for the nuclear power programme. NuPEA, as a semi-autonomous agency is crucial in meeting these obligations, which include:

- (a) Ensuring the establishment of infrastructure for safe and secure utilization of nuclear energy in Kenya, subjecting all its peaceful nuclear activities/projects to safeguards and establishing a comprehensive legal framework for the safe and secure application of nuclear technology in Kenya;
- (b) The implementation of the IAEA/Kenya Cooperation Framework Agreement/Country Project Framework (CPF) 2017 to 2022 (signed on 31st May 2017) for development of peaceful uses of Nuclear Energy in food and agriculture; human health; water resources management; agro-environmental management; industrial applications; sustainable energy development; human capacity building in nuclear science and technology; and, strengthening national radiation safety and nuclear security.
- (c) Development of an adequate policy, legal and regulatory framework for peaceful uses of nuclear technology in a manner that protects people, property and the environment
- (d) Implementation of the Nuclear Regulatory Act No. 29 of 2019 (NRA), the Kenya Nuclear Regulatory Authority (KNRA) has entered into an MoU with NuPEA to jointly review and harmonize all national Laws relevant to the Nuclear Power Programme as well as to develop regulations to operationalize the NRA as required by section 98.

In addition, NuPEA as a semi-autonomous agency has facilitated international collaboration and agreements with various international entities for the ongoing nuclear power programme and thus Kenya has some international obligations that need to be maintained to effectively implement the nuclear power programme. Among these are the following engagements.



b. NuPEA collaboration with USA Foundational Infrastructure for Responsible use of Small Medium Reactor Technology (SMR) (FIRST) programme

This collaboration commenced in 2019 with interaction between NuPEA and the FIRST team led by the U.S. Department of State for collaboration in developing areas of: nuclear security, safeguards; nuclear career professional development; workforce planning; legal and regulatory policy development for SMRs, building, financing and operation of SMR. In implementing the FIRST program, NuPEA established a multi-institutional team to be taken through, by the US expert, the various fields of peaceful application of nuclear energy with focus on the SMR technology. Further the objective of the program is to develop and maintain Kenya's infrastructure and human capacity for the responsible use of nuclear energy and technology, focusing on human capital and workforce development, education, training, public acceptance, and assistance programs. The Program also envisioned that the highest standards and practices in nuclear safety, security, safeguards, and nonproliferation will be maintained. The program will also support the development of an independent regulatory oversight; and improve communications, outreach, and community support for the peaceful uses of nuclear energy. Upon completion of the first engagement, the county has developed an action plan that prioritizes the urgent needs to enable Kenya develop the workforce needed for effective implementation of the ongoing nuclear power programme. The action plan focuses on several areas that contribute to workforce development. These areas include academic programs at the bachelor's and master's levels, technical education programs to prepare graduates for roles as technicians in an SMR power plant, professional development programs for those holding degrees, and other areas of possible collaboration.

This collaboration is planned for medium and long-term which spans in three phases. The initial engagement was conducted in 2019 with the other two phases planned in the next 3 to 5 years. NuPEA is the centerpiece for coordination of these engagements without which the collaboration may be halted.

c. United States International Nuclear Security Engagement with Kenya

There is an ongoing engagement, which commenced in 2021, between NuPEA and the United States department of Energy's office of International Nuclear Security Initiative with the aim of providing support in enhancing Kenya's nuclear security regime. The areas of collaboration are: nuclear security culture, nuclear security legal and regulatory framework, and capacity building for nuclear security. NuPEA is crucial in ensuring this engagement is sustained and thus contributes towards overall enhancement of the nuclear security framework for Kenya.

d. Existing MoUs

In implementing the nuclear power programme, NuPEA entered into Memorandum of Understanding with countries advanced in nuclear power technology including The People Republic of China and Republic of South Korea. These MoUs are primarily for human capacity building. In this regard, NuPEA plays an important role in ensuring that financial, human and institutional support from the international community aids the development of the national nuclear power programme.

Table 4: Status of Existing MoUs with Countries Advanced in Nuclear Power Technology



MOU/Programme	Purpose	Status	Benefits/Achievements
Ministry of Energy (Kenya) and Ministry of Trade, Industry and Energy (Republic of Korea) signed on 31 st May, 2016	Cooperation between Kenya and the Republic of Korea in Electric Power and Nuclear Energy Development.	Seoul National University (SNU) offers postgraduate training opportunities on Nuclear Policy related fields	3 students graduated between 2018 and 2023 2 students currently undertaking their studies
NuPEA, Korea Electric Power Corporation (KEPCO), Korea Nuclear Association for International Cooperation (KNA) and KEPCO International Nuclear Graduate School (KINGS) signed on 2 nd September, 2016	Cooperation in the field of nuclear energy through exchange of technical data, information, experience, know-how, visits and joint work	KINGS university offers two-year Master programs in Nuclear Power plant Engineering and Energy Policy & Engineering to students drawn mainly from various institutions in the energy sector in Kenya.	47 students graduated between 2012 and 2023 5 students are currently undertaking their studies
NuPEA and the Korea Atomic Energy Research Institute (KAERI) signed on 19 th September, 2017	Technical cooperation in Research and Development in Nuclear Energy.	Technical support in the feasibility study for KNRR project	Feasibility study report Nuclear Research Centre Prospectus
KINS-KAIST programme	Supporting Nuclear and Radiation Safety	Two-year Master program to students drawn mainly from the regulatory body (KNRA)	7 students graduated between 2012-2023
Memorandum of Understanding between the the Government of the Republic Kenya ("Kenya") and the Government of the United States of America ("the US") Concerning Strategic Civil Nuclear Cooperation ("NCMoU").	Technical cooperation in development of infrastructure for SMR	First engagement conducted on safety, safeguards and security aspects of SMR infrastructure development	Initial engagement undertaken on nuclear security, safety and safeguard. Planned assistance on stakeholder engagement and public communication in Kilifi County.

9

MOU/Programme	Purpose	Status	Benefits/Achievements
NuPEA and United States International Nuclear Security Engagement	Technical cooperation in legislative and regulatory framework development for nuclear security	Workshop engagement on nuclear security capacity development	Capacity building on nuclear security culture and nuclear security regulations
Republic of Korea	Bilateral Cooperation on Peaceful Use of Atomic Energy through exchange of technical data, information and experience.	Capacity building and training of Kenyans in nuclear technology	Host of policy makers and legislators and training of Kenyans on nuclear technology.
People's Republic of China	Capacity Building for the nuclear power programme	Capacity building and training of Kenyans in nuclear technology	Nuclear Model and training of Kenyans on nuclear technology

6. CHALLENGES OF LOSING NuPEA AS A SEMI-AUTONOMOUS GOVERNMENT AGENCY

- i. The Ministry of Energy is best placed to guide energy matters at a policy level, and requires capable implementers of such policy. Nuclear is a technical and complex matter, and is best placed in a specialized technical organization, such as bestowed on NuPEA.
- ii. NuPEA has made significant gains since its inception, and it is at a critical stage towards the realization of the nuclear energy goal as anticipated in 2010. Loss of independence for NuPEA may lead to slow down of the nuclear power programme and may also lead to heavy losses of the investments that the Government has channeled to NuPEA for nuclear power development.
- iii. The enactment of the Energy Act, 2019, establishing NuPEA enabled Kenya to achieve Infrastructure issue on National Position as evaluated by International Atomic Energy Agency during the Follow up INIR mission conducted in June, 2021. The proposed disbandment will negatively affect this achievement.
- iv. NuPEA was bestowed with the role of managing the National Liaison Office that oversees all IAEA activities and programmes in Kenya across various sectors of the economy. The momentum, harmony and institutional memory that has been attained over the last 12 years would be negatively impacted, with a knock-on effect by slowdown of implementation of the programs.
- v. NuPEA has so far successfully discharged the activities of a NEPIO in Phase 1 of the nuclear energy development, and has progressed to Phase 2. It is international best practice for a NEPIO to be an independent entity with the right competencies and resources to coordinate activities of the various institutions and stakeholders involved in the nuclear energy

- development. Without such autonomy, the implementational element would not be efficiently undertaken.
- vi. In Phase 2 of nuclear energy development, the country requires a technically capable organization to be the eventual owner and/or operator of a nuclear power plant. This responsibility (of identifying a suitable owner operator is bestowed upon NuPEA by the Energy Act sec 56, 2 (h). This organization needs to have a technical know-how of nuclear reactor technology, and its market, to be able to write, invite and evaluate successful bids. The strengths and the human resource required for these functions are currently domiciled within NuPEA.
 - vii. The government has invested to build institutional nuclear capacity since 2010 (>13 years). This institutional capacity at NuPEA has specialized in the field over the years, hence its suitability to continue running the programme. NuPEA has also established critical networks and synergies with international organizations and countries. It is important for NuPEA to extend these networks, and fulfill its commitments and obligations for the benefit of the country.
 - viii. The Agency has trained young high-level professionals (Nuclear Engineers and Scientists) who have specialty in peaceful applications of nuclear science and technology. Further, the Agency is undertaking sustained STEM Mentorship for students with international partners both for primary and secondary school students.
 - ix. There exists a risk of Kenya losing international goodwill demonstrated through NuPEA's leadership in the development of the country's nuclear power programme.

7. FUTURE BENEFITS OF IMPLEMENTATION OF NuPEA MANDATE

- i. Nuclear energy will provide reliable, affordable, stable, base load energy that would spur Kenya's economic agenda.
- ii. Nuclear will contribute to diversification of power sources for efficient supply
- iii. Nuclear power price is economically competitive, that will lead to lowering of power tariffs and enhanced competitiveness of the industries in the country
- iv. Nuclear power is clean and does not emit greenhouse gases, making it a great power option for climate change mitigation in the energy mix
- v. Research Reactors will be utilized in teaching science and engineering students, and training workers in the nuclear power programme.
- vi. Nuclear research Reactors will also be used in radioisotope production for medical and industrial use. The medical radioisotopes shall enhance cancer diagnosis and treatment in the country thus improving healthcare for the Kenyan citizens and the East and Central African region.
- vii. The reactors will also be used in carrying out scientific research in various fields such as agriculture and assessment of underground water resources.
- viii. Effective application of the Research Reactors in Kenya will enhance sustainable development through economic growth and improved quality of life for all Kenyans,
- ix. NuPEA's coordination of energy research and development and capacity building will lead to the following benefits;
- x. Enhanced prioritization of critical R&D and capacity building thematic areas
- xi. Enhance mobilization and utilization of financial, human and institutional resources



- xii. Minimize overlaps, duplication and inefficiencies in energy R&D and capacity building.
- xiii. Enhanced collection, management and dissemination of information and data on energy research
- xiv. Promotion of local production of energy technologies
- xv. Enhanced research linkages between industry and academia

8. CONCLUSION

NuPEA's mandate interfaces with many sectors of the Kenyan economy, the implementation requires high levels of specialization and high-level performance. For successful implementation of the nuclear power programme, independent designation of a NEPIO (NuPEA) is quite important. Other stakeholders should continue to play their roles with NuPEA as the coordination point. The gains and progress made in the implementation of the nuclear power programme should be guarded and protected. At this particular point, the organization that is NuPEA needs to advance, and to hire more experts, most of whom are in its human resource development pipeline, especially at this moment when critical activities such as site characterization commences.

It is our submission that the Ministry of Energy is best placed to guide energy matters at a policy level, and requires capable implementers of such policy. Nuclear is a technical and complex matter, and is best placed in a specialized technical organization. Being a first of a kind (FOAK) project in Kenya, it necessitated the formation of a special purpose vehicle to drive the implementation of the nuclear project. Nuclear power has a low probability-high consequence risk profile that requires a dedicated team to focus solely on nuclear power generation. Nuclear requires special attention given its technical complexity and the global interactions necessary to succeed in this industry. This makes it possible to reach out to other such organizations globally, collaborate and ensure the development of a credible nuclear power programme.

Section 9.3 of the National Energy Policy 2018 recognizes that Research and Development (R&D) as well as human resource capacity development enhancement are key to the development of the energy sector. The Policy further highlighted the need to have a distinct Institute of Energy Research to conduct national energy research, in matters ranging from (clean) energy technology, policy frameworks, energy economics, energy regulation, energy efficiency and conservation (safety and economic) and energy markets/power tariffs, among others. These responsibilities have since been conferred to NuPEA. While the other entities in the sector will continue to play their roles in research and development and capacity building initiatives, a coordination mechanism to guarantee efficiency and eliminate duplicity is important. NuPEA should therefore be facilitated and strengthened to play this role as it was envisaged by the Energy Act.

NuPEA is currently entering into the operational mandates, transitioning from the policy framework put in place through the Ministry of Energy & Petroleum. As such the Nuclear Regulatory Act, 2019 stipulates those various operational matters regarding nuclear power must be subject to available regulations. Nuclear operational matters should be conducted by a special purpose vehicle which is subject to the prevailing regulatory regime. It is against this backdrop that the government needs a stand-alone institution that will be able to concentrate on operational matters which are subject to the purview of a regulatory process.

A nuclear power programme requires long term planning due to its specialized nature. This will enable the country have a proper coordination in implementing the programme in accordance to the international best practices. Most countries that have successfully developed nuclear power



programmes have done so in 15-20 years. It is important that the Government make investment in the programme early on to ensure its successful implementation.

A decision to wind up NuPEA would amount to a challenge to the entire legislative framework for regulation of nuclear energy, previous decisions of Government on the nuclear programme, mandate of the Agency and planned investments and commitments made for the development of the sector.

DATED at NAIROBI this 29th DAY of November, 2023

SIGNED:

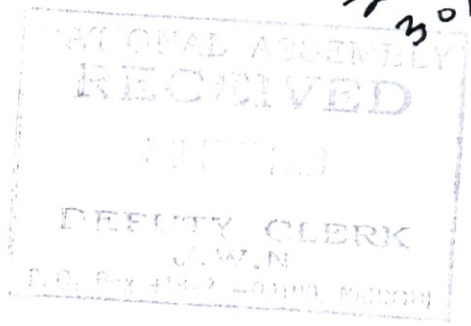


EZRA ODONDI ODHIAMBO

CHAIRMAN BOARD OF DIRECTORS

NUCLEAR POWER AND ENERGY AGENCY

DDC 8/30/11



**REPUBLIC OF KENYA
MINISTRY OF ENERGY AND PETROLEUM
STATE DEPARTMENT FOR ENERGY**

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NAIROBI

Ref. No. MOE/CONF/3/11

*Mary Lenelele
to inform committee
and facilitate consideration
w/w
1/12/23*

29th November, 2023

Mr. Samuel Njoroge
Clerk of the National Assembly
P.O Box 41842-00100
NAIROBI

30 NOV 2023

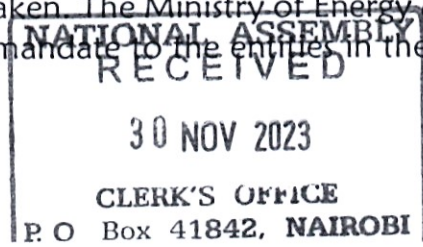
Dear Clerk of the M.A,

RE: MEMORANDUM TO THE NATIONAL ASSEMBLY ON THE STATUTE LAW (MISCELLANEOUS AMENDMENTS), BILL (NATIONAL ASSEMBLY BILL NO. 67 OF 2023)

Reference is made to the publication by the Saturday Nation on 18th November 2023 inviting the public and stakeholders to submit memoranda on the matter of consideration by the National Assembly on the Statute Law (Miscellaneous Amendments), Bill (National Assembly Bill no. 67 of 2023).

The Statute Law (Miscellaneous Amendments), Bill on the proposed amendment to the Energy Act, 2019 (No.1 of 2019) in the memorandum of objects and reasons section outlines the winding up of the Nuclear Power and Energy Agency and transfers its function to the Ministry as captured in the recommendation of the Presidential Taskforce on the Power Purchase Agreements.

The position of the Ministry of Energy & Petroleum is that Nuclear Power and Energy Agency should not be wound up and should be adequately funded to discharge its mandate as prescribed in the Energy Act 2019. This will ensure that the nuclear power programme is implemented in line with international best practice and the coordination of energy research and development in the energy and petroleum sectors is effectively undertaken. The Ministry of Energy & Petroleum will continue to discharge its policy guidance mandate to the entities in the energy and petroleum sectors. This



is in line with Executive Order No. 2 of 2023 - Organization of the Government of the Republic of Kenya which placed the Nuclear Power and Energy Agency as an Institution under the Ministry of Energy & Petroleum.

Kindly find herewith the Memorandum by the Ministry of Energy & Petroleum for National Assembly on the subject for consideration by the National Assembly.



Alex Wachira
PRINCIPAL SECRETARY

Encls:

Copy to: **Mr. Davis Chirchir**
Cabinet Secretary
Ministry of Energy and Petroleum
NAIROBI

CS Justus A. Wabuyabo, LL.M (UoN)
Ag. Chief Executive Officer
Nuclear Power & Energy Agency
NAIROBI



MINISTRY OF ENERGY AND PETROLEUM

MEMORANDUM BY THE MINISTRY OF ENERGY & PETROLEUM
MEMORANDUM TO THE NATIONAL ASSEMBLY ON THE STATUTE
LAW (MISCELLANEOUS AMENDMENTS), BILL (NATIONAL ASSEMBLY
BILL NO. 67 OF 2023)

PURPOSE

The purpose of the memorandum is to present to the National Assembly (Thirteenth Parliament Second Session) (2023) a Memorandum by the Ministry of Energy & Petroleum on the memorandum of objects and reasons on the proposed amendment to the Energy Act, 2019 (No.1 of 2019) on the proposal of the winding up of the Nuclear Power and Energy Agency as captured in the recommendations of the Presidential Taskforce on the Power Purchase Agreements.

INTRODUCTION

The Ministry of Energy and Petroleum is charged with the mandate to develop and implement policies that create an enabling environment for efficient operation and growth of Kenya's energy sector. The Ministry sets strategic directions to facilitate the growth of the sector while providing long term vision for all sector players in the Generation, Transmission and

Distribution of affordable, clean and stable electricity to spur socio-economic development in the Country. The Executive Order No. 2 of 2023 – Organization of the Government of the Republic of Kenya placed the Nuclear Power and Energy Agency as an Institution under the Ministry.

BACKGROUND

The Memorandum of Objects and Reasons to the Statute Law (Miscellaneous Amendments) Bill, 2023 has proposed the winding up of the Nuclear Power and Energy Agency (NuPEA) and transferring its functions to the Ministry. Notably, the proposed amendment is not contained within the text of the Miscellaneous Amendments Bill 2023.

As a Ministry, we have taken note of the comments that the Departmental Committee on Energy made with regard to the status of NuPEA during our engagement on 3rd June, 2022, especially so with regard to its place in the future energy mix and are similarly strongly opposed to its winding up.

NuPEA was formed as a result of a recommendation in 2010 by the National Economic & Social Council (NESEC) for the introduction of nuclear power to meet future electricity demand. The programme was established as a Vision 2030 flagship project. The nuclear power option was also integrated in the national energy plan - the Least Cost Power Development Plan.

In November, 2010, the Nuclear Electricity Project Committee (NEPC) was established under the Ministry of Energy (MoE) to drive the nuclear energy generation programme for Kenya. NEPC was later transformed to Kenya

Nuclear Electricity Board (KNEB) vide Gazette Notice No. 131, supplement 156 of 23rd November, 2012. The mandate of KNEB was to fast-track the development and implementation of the nuclear power programme in order to enhance the production of affordable and reliable electricity generation in Kenya.

Through the Energy Act, 2019, KNEB was transformed to the Nuclear Power and Energy Agency (NuPEA) which is a State Corporation under the Ministry of Energy & Petroleum. The Act expanded the Agency's mandate to include promoting and implementing Kenya's Nuclear Power Programme, carrying out research and development, and capacity building in the energy sector.

NuPEA's mandate as stipulated in Section 56(1) of the Energy Act, 2019, are to:

- (a) Be the nuclear energy programme implementing organization and promote the development of nuclear electricity generation in Kenya.
- (b) Coordinate the implementation of research, development and dissemination in the energy and petroleum sectors, and;
- (c) Coordinate the implementation of capacity building activities in the energy and petroleum sectors.

Since inception, NuPEA has undertaken activities in the development of the 19 major infrastructure issues for the nuclear power programme for Kenya. The implementation of a nuclear power programme is an intensive exercise which requires long term planning. The Agency undertook a Pre-feasibility study for the nuclear power programme - the anchor document adopted towards a technical decision for the country to proceed with the nuclear

power program, and further, developed a 15-year roadmap to guide in the development of nuclear infrastructure issues and address the gaps identified in the pre-feasibility study report.

The progress of nuclear infrastructure development for completion of Phase 1 of the International Atomic Energy Agency (IAEA) milestone approach was evaluated by an IAEA Integrated Nuclear Infrastructure Review (INIR) Mission in 2015 and a Follow-Up INIR Mission in 2021. The independent international expert review outcome indicated that significant progress has been made in the development of nuclear infrastructure, thus enabling the country to progress to Phase II after successful attainment of Milestone 1 of nuclear power programme development. It was further noted, that any country embarking on the deployment of a Nuclear Power Plant is required to establish a Nuclear Energy Program Implementation Organization (NEPIO) to coordinate all activities related to the 19 nuclear infrastructure issues.

Significant strides have been made in building a nuclear-dedicated human capacity which has ably and diligently progressed the program with the IAEA's guidance. Abolishment of the Agency would significantly slow down the momentum of the programme.

Beyond the Nuclear Power Programme which is long term, NuPEA also acts as the country's National Liaison Office (NLO). The NLO is charged with the duty of managing, coordinating and implementing IAEA sponsored projects and programmes in all fields of peaceful uses of nuclear science and technology in Kenya.

NLO plays a pivotal role in ensuring optimal performance of the IAEA technical cooperation programme towards implementation of three of the five sectors that form the core pillars of the Bottom Up Economic Transformation Agenda (BETA). Additionally, other sectors of the economy benefit from NuPEA's efficient coordination of nuclear energy applications in the country;

- a) In Human Health, NuPEA has supported the building of infrastructure and capacity building for cancer diagnosis and treatment through establishment of cancer centers in four national referral hospitals
- b) In agriculture, NuPEA has facilitated research into production of varieties of seeds that can withstand drought and diseases and produce high yields. Additionally, improved animal forage has been produced to enhance production of beef and milk;
- c) The Micro, Small and Medium Enterprise (MSME) economy will be positively impacted by implementation of the nuclear power plant project through the numerous opportunities that will be provided for both large and MSMEs that will possess capabilities that meet nuclear requirements to supply the required goods and services. Local suppliers including engineering companies; manufacturing companies; civil construction and system assembly companies; services; and operation and maintenance companies will be involved during the construction and commissioning of the nuclear power plant and the plant operation phase.
- d) In manufacturing, NuPEA has facilitated the establishment of a second dosimetry laboratory at the Kenya Bureau of Standards

(KEBS) and calibration improvement to meet international standards in industry.

- e) Water Resource Management has also been improved through introduction of nuclear techniques in mapping of water resources to improve water management in the country. All these projects are geared towards achieving national development objectives through peaceful application of nuclear technology.
- f) NuPEA is coordinating the development of the Kenya Nuclear Research Reactor (KNRR) project in Konza Technopolis. The project is envisaged to accelerate economic development and improve quality of life through the application of nuclear energy technology in scientific research, industry and healthcare as outlined under BETA. The KNRR has wide applications in education and training, health, industry, energy, and research. The main utilizations envisaged include: enhancing national research and development capabilities and intergovernmental collaborations; improving and encouraging industrial competitiveness; enhancing material structure study for various applications; production of radioisotopes for medical and industrial applications; improving calibration and testing services for industrial and medical instruments; and education and training of students and staff of various institutions.

NuPEA, being the Nuclear Energy Programme Implementing Organization (NEPIO), has an important role to play in attainment of Vision 2030 aspirations by enhancing access to clean, affordable, reliable and efficient energy in the country. Within the Vision 2030, energy is recognized as a key enabler to the implementation of the flagship projects which will lead

to increased power demand. NuPEA is also expected to play a critical role in accelerating economic development by raising productivity and efficiency levels across the three pillars through coordination of research and development (R&D) and capacity building activities/ initiatives in the energy and petroleum sectors.

NuPEA is implementing two Vision 2030 Programmes, namely:

- a) Nuclear power programme – first nuclear power plant to be commissioned in **2034**;
- b) Research Reactor Programme – first nuclear research facility to be commissioned in **2030**.

In implementing the nuclear power programme, Kenya is expected to accede to international conventions and treaties on nuclear safety and security. To this end, NuPEA is coordinating and implementing international obligations under the auspices of the IAEA, bilateral agreements with several countries including USA, South Korea, China and Russia.

This will ensure the establishment of infrastructure for safe and secure utilization of nuclear energy in Kenya, subjecting all its peaceful nuclear activities/projects to international safeguards obligations and establishing a comprehensive legal and technical framework for the safe and secure application of nuclear technology in country.

The following are the reasons why NuPEA should remain as an independent entity:

- a) Kenya is at the implementation stage of the nuclear power programme and requires an implementing organ (NEPIO) to guide the development of nuclear infrastructure in line with international best practices. MoE is therefore best placed to provide policy guidance/direction as opposed to the implementation of the nuclear power programme.
- b) NuPEA has made significant gains since its inception, and it is at a critical stage towards the realization of the nuclear energy goal as anticipated in 2010. Loss of independence for NuPEA will lead to slow down of the nuclear power programme and will also lead to heavy losses of the investments that the Government has channeled to NuPEA for nuclear power development.
- c) The enactment of the Energy Act, 2019, establishing NuPEA enabled Kenya to achieve Infrastructure issue on National Position as evaluated by International Atomic Energy Agency during the Follow up INIR mission conducted in June, 2021. The IAEA commended Kenya for establishing a standalone Agency to spearhead its nuclear power development. Indeed, the IAEA has showcased this model to other emerging countries as a best practice for effective, efficient and timely implementation of a project of this magnitude.
- d) NuPEA was bestowed with the role of managing the National Liaison Office that oversees all IAEA activities and programmes in Kenya across various sectors of the economy. The momentum, harmony and institutional memory that has been achieved over the last 12 years would be negatively impacted, with a knock-on effect by slowdown of implementation of the programs.


- e) NuPEA as a NEPIO has efficiently and effectively discharged its mandates and activities, which has successfully moved the country's nuclear power programme from Phase 1 to Phase 2 of the IAEA milestone approach. It is international best practice for a NEPIO to be an independent entity with the right competencies and resources to coordinate activities of the various institutions and stakeholders involved in the nuclear energy development. Without such autonomy, the implementational element would not be efficiently undertaken.
- f) The government has also invested in building institutional nuclear capacity since 2010. This institutional capacity at NuPEA has specialized in the field over the years, hence its suitability to continue running the programme. NuPEA has also established critical networks and synergies with international organizations and countries. It is important for NuPEA to extend these networks, and fulfill her commitments and obligations for the benefit of the country.
- g) NuPEA's current staff establishment is 147, comprises a number of competences in various cadres. It would be exceedingly difficult to fit the same within the Ministry structure. This would result in substantive job losses for the Agency's current staff.
- h) Towards implementation of its mandate of coordination of energy research and development and capacity building, the Agency coordinated the development of a framework for research and development and a masterplan for capacity building. This was implemented through the participation of the Ministry and all sector state corporations. The strategies earmarked for implementation will be negatively impacted by winding up of the coordination entity,

NuPEA, resulting in forgone opportunities for the sector and the country at large.

From the aforementioned, the position of the Ministry of Energy & Petroleum and in the best interest of the country is that NuPEA should NOT be wound up and should remain as presently constituted as a Semi-Autonomous Government Agency. This will ensure effective implementation of the nuclear power programme and coordination of energy research and development in the energy and petroleum sectors. The MoEP will continue to discharge its policy guidance mandate to the entities in the energy and petroleum sectors.

Dated 29th Day of November, 2023

SIGNED:



ALEX WACHIRA

PRINCIPAL SECRETARY

STATE DEPARTMENT OF ENERGY

MINISTRY OF ENERGY & PETROLEUM

DDC 9/30/11



The Institution of Engineers of Kenya

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Our Ref: IEK/PRE/CEO/VM/210/2023

29th November 2023

Mr. Samuel Njoroge
The Clerk of the National Assembly
P. O. Box 41842 - 00100
Nairobi

Mary Kemerelle
to present to committee
and facilitate consideration
19/11/23

Dear Samuel,

RE: MEMORANDUM ON THE MISCELLANEOUS AMENDMENT BILL, 2023

The Institution of Engineers of Kenya (IEK) is the learned society of the engineering profession and co-operates with national and other international institutions in developing and applying engineering to the benefit of humanity. IEK has over 10,000 members drawn from engineers working in various government institutions (both national and county), consultancies, contractors, educators, designers, manufacturers, and other persons interested in engineering.

Institution of Engineers of Kenya has reviewed the Miscellaneous Amendment Bill, 2023 and provided proposals enclosed herein for your kind consideration.

Looking forward to a continued collaboration.

Yours Sincerely,

Dr. Eng. Victor Mwongera, MRAEs
Chief Executive Officer
THE INSTITUTION OF ENGINEERS OF KENYA

NATIONAL ASSEMBLY
RECEIVED
11/29/23
DEPUTY CLERK
J.W.N
P.O. Box 41842 - 00100, NAIROBI

30 NOV 2023

NATIONAL ASSEMBLY
RECEIVED
30 NOV 2023
CLERK'S OFFICE
P.O. Box 41842, NAIROBI



INSTITUTION OF ENGINEERS OF KENYA MEMORANDUM TO THE NATIONAL ASSEMBLY ON THE MISCELLANEOUS AMENDMENT BILL, 2023

1.1 Introduction

The Institution of Engineers of Kenya (IEK) is the learned society of the engineering profession and co-operates with national and other international institutions in developing and applying engineering to the benefit of humanity.

We as IEK we are presenting a memorandum with regards to the Statute Law (Miscellaneous Amendments) Bill, 2023 that has proposed the winding up of the Nuclear Power and Energy Agency (NuPEA) and transferring its functions to the Ministry.

1.2 We Cite the Following Reasons in Objecting the Proposal:

- i. The nuclear power programme is set to meet future electricity demand and the programme was established as a Vision 2030 flagship project. The nuclear power option was also integrated in the national energy plan - the Least Cost Power Development Plan.
- ii. Affordable, clean and reliable electricity is a key ingredient for socio-economic development and nuclear power plant is aimed at achieving this electricity goal. With the proposal of winding up NuPEA the country will be at risk in ensuring energy security and her place as a business and gateway to Sub-Sahara Africa will be greatly compromised by the neighboring countries offering affordable power to industrialization.
- iii. The country is set to lose on the work the Agency has undertaken since its inception in 2010 in in the development of the 19 major infrastructure issues for the nuclear power programme for Kenya. The government has also invested to build institutional nuclear capacity since 2010 (>11 years). This institutional capacity at NuPEA has specialized in the field over the years, hence its suitability to continue running the programme. NuPEA has also established critical networks and synergies with international organizations and countries. It is important for NuPEA to extend these networks, and fulfill her commitments and obligations for the benefit of the country.
- iv. Nuclear Power and Energy Agency has an expanded mandate to cater for the coordination of Research and Development and Capacity Building in the Energy and Petroleum Sectors this can only be undertaken by an Agency and the Ministry left to undertake policy direction.
- v. Significant strides have been made in building a nuclear-dedicated human capacity which has ably and diligently progressed the program with the IAEAs guidance. Abolishment of the Agency would significantly slow down the momentum of the programme.



- vi. NuPEA is coordinating the development of the Kenya Nuclear Research Reactor (KNRR) project in Konza Technopolis. The project is envisaged to accelerate economic development and improve quality of life through the application of nuclear energy technology in scientific research, industry and healthcare as outlined under BETA
- vii. Notably, the proposed amendment is not contained within the text of the Miscellaneous Amendments Bill 2023.

1.3 Benefits of Developing Nuclear Power.

- i. Nuclear power is clean and does not emit greenhouse gases, making it a great power option for climate change mitigation in the energy mix.
- ii. Provision of technical expertise from Engineers to development of Nuclear power program:
- iii. Nuclear energy will provide reliable, affordable, stable, base load energy that would spur Kenya's economic agenda.
- iv. Nuclear will contribute to energy security diversification of power sources for efficient supply
- v. Nuclear power price is economically competitive, that will lead to lowering of power tariffs and enhanced competitiveness of the industries in the country
- vi. Nuclear research Reactors will also be used in radioisotope production for medical and industrial use. The medical radioisotopes shall enhance cancer diagnosis and treatment in the country thus improving healthcare for the Kenyan citizens and the East and Central African region.

1.4 Conclusion

From the aforementioned the position of IEK is that nuclear power programme to considered as a priority national development Agenda/programme and a game changer in the provision of clean, affordable and reliable electricity to spur socio economic development in the country and the region. *NuPEA should NOT be wound up* and should remain as presently constituted for effective implementation of nuclear power programme and undertake coordination of Research and Development and Capacity Building in the Energy and Petroleum Sectors. The Ministry of Energy and Petroleum to discharge the policy guidance and direction to the entities in the energy and petroleum sector.

Signed and Endorsed by:

Dr. Eng. Victor Mwangera
Chief Executive Officer
The Institution of Engineers of Kenya

