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THE NATIONAL ASSEMBLY
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CHAIRPERSON, D.C. ENERGY

CLERK AT THE TABLE: A. SHIBUKO

TWELFTH PARLIAMENT - THIRD SESSION - 2019

THE NATIONAL ASSEMBLY

DEPARTMENTAL COMMITTEE ON ENERGY

REPORT ON THE INTERNATIONAL ATOMIC ENERGY AGENCY (IAEA) 63RD
GENERAL CONFERENCE

16TH TO 20TH SEPTEMBER, 2019

VIENNA, AUSTRIA

Directorate of Committee Services,
Clerk's Chambers
Parliament Buildings,
NAIROBI

OCTOBER, 2019

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ABBREVIATIONS/ACRONYMS

AFCON	-	African Commission on Nuclear Energy
AFRA	-	African Regional Co-operative Agreement
AU	-	African Union
AYGN	-	African Young Generation in Nuclear
CBRN	-	Chemical, Biological, Radiological and Nuclear
CNNC	-	China National Nuclear Cooperation
EU	-	European Union
GC	-	General Conference
HRD	-	Human Resources Development
IAEA	-	International Atomic Energy Agency
IFNEC	-	International Framework for Nuclear Energy Cooperation
KALRO	-	Kenya Agricultural and Livestock Research Organization
KeBS	-	Kenya Bureau of Standards
KEMRI	-	Kenya Medical research Institute
KIRDI	-	Kenya Industrial research and Development Institute
KMTC	-	Kenya Medical Training College
KYGN	-	Kenya Young Generation in Nuclear
MTRH	-	Moi Teaching & Referral Hospital
NACOSTI	-	National Commission for Science, Technology and Innovation
NDT	-	Non-Destructive Test
NLO	-	National Liaison Officer
NGO	-	Non- Governmental Organization
NKM	-	Nuclear Knowledge Management
NICE	-	Nuclear Innovation Clean Energy
NPC	-	National Participation Costs
NPP	-	Nuclear Power Plant
NRF	-	National Research Fund
NuPEA	-	Nuclear Power and Energy agency
PET	-	Positron Emission Tomography
PET/ CT	-	Positron Emission Tomography/Computed Tomography
PMO	-	Project Management Office
RDC	-	Regional Designated Centres
RPB	-	Radiation Protection Board
SPECT	-	Single-Photon Emission Computed Tomography
SDGs	-	Sustainable Development Goals
TALEO	-	is a cloud-based talent management software

CHAIRPERSON'S FOREWORD

The Sixty-Third Annual Regular Session of the International Atomic Energy Agency (IAEA) took place at the United Nations Headquarters in Vienna from the 16th to 20th September 2019. This year's session focused on the dual role of the Agency which is to use Atoms for Peace and Development. The Agency by verifying nuclear material contributes to international peace and security as well as improving the well-being and prosperity of people through peaceful use of nuclear technology.

Nuclear technology plays a significant role in the timely diagnosis and effective treatment of cancer. This year's scientific forum was themed "A Decade of Action on Cancer Control and the Way Forward" as a clear indication of Agency's endeavours of helping countries to tackle the cancer burden. The role of Youth and Women was given priority in ensuring inclusivity and gender parity is met at the professional level and above.

The Committee is grateful to the Offices of the Speaker and the Clerk of the National Assembly for the logistical support accorded to it to undertake the conference.

On behalf of the Departmental Committee on Energy and pursuant to provisions of Standing orders
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HON. DAVID GIKARIA, MP

CHAIRPERSON, DEPARTMENTAL COMMITTEE ON ENERGY

EXECUTIVE SUMMARY

The Departmental Committee on Energy was invited by the Cabinet Secretary, Ministry of Energy to attend the 63rd IAEA General Conference 2019 as a stakeholder and to inform it towards its oversight role of the Ministry of Energy. This is in particular as the Committee proceeds with the Nuclear Regulatory Bill, 2019.

The Conference attracted high-ranking officials and representatives from IAEA Member States. The following members of the Committee and accompanying staff comprised the delegation that attended the conference:

1. Hon. Eng. Vincent Musyoka Musau, MP- Leader of Delegation
2. Hon. Elsie Busihile Muhanda, MP
3. Hon. Julius Musili Mawathe, MP
4. Hon. John Walter Owino, MP
5. Hon. Richard Chonga Kiti, MP
6. Ms. Rose M. Wanjohi, First Clerk Assistant- Delegation Secretary

The 63rd IAEA General Conference 2019 focused largely on the development and utilization of nuclear technology in realizing the United Nations Sustainable Development Goals with particular emphasis on energy and health care. Generally, the conference presented progress in development and utilization of nuclear technology in the higher income economies of the world. Equally revealed were considerable achievements in some middle income economies with glaring gaps in majority of the low and middle income economies.

It is therefore imperative that, efforts need to be made if the 21st century generation of humanity is to experience significant equality that is to be gotten through utilization of nuclear technology. In particular Africa must re-dedicate her efforts if she wishes to join in the League of Nations whose citizens are reaping the benefits of nuclear technology. Suffice to say, Africa possesses unparalleled resources for development of nuclear technology.

During the General Conference (GC), Kenya renewed her commitment covering the assistance of IAEA in application of nuclear science in various sectors especially on Kenya's nuclear power programme in terms of trainings, fellowships, scientific visits, expert missions and assistance in review of various documents for the nuclear power programme

The IAEA GC paid a specific emphasis on the youth and the young professionals to explore the potential contribution of young generation networks in nuclear majorly in African member states to achieve the socioeconomic development in nuclear achieve science and allied fields, youth

engagement opportunities and challenges young people face in embracing the careers and employment in nuclear related field.

The Committee observed that Kenya is a leading proponent of green energy with over 70 % of the electricity generated and added to the National grid from hydro, wind and solar. Nuclear energy is a form of green energy and does not use fossil fuels which are contributing to climate change. Nuclear technology is being emphasized to play a significant role in the timely diagnosis and effective treatment of cancer. Kenya needs to increase her human capital for nuclear science and technology to be able to manage the increasing needs and infrastructure that uses nuclear science and technology in Human health, Agriculture, water resource management and industry.

The Committee recommends that Nuclear energy for electricity generation is a priority in the long-term to be included in the energy mix conscious of the fact that nuclear power is low carbon energy source. It does contribute to the mitigation of the impact of climate change and the achievement of SDGs.

The Country assents to the international Treaties and Conventions on nuclear safety and security including expressing political support to the code of conduct for safety and security for radioactive sources. The Country calls for national research proposals in support of at least four multidisciplinary-multi institution projects focusing on cancer control and food security based on Nuclear Technology.

The International Atomic Energy Agency (the Agency) to successfully conclude the ongoing collaborative work in equipping Moi Teaching & Referral Hospital (MTRH). In an effort to take care of the access to the cancer treatment services, the Government to embark on establishing more cancer centers. Finally, in order to build adequate human resource capacity, the Country collaborates with the Agency, to establish local training programmes and centres for relevant health professionals.

1.0 PREFACE

1.1 ESTABLISHMENT AND MANDATE OF THE COMMITTEE

The Departmental Committee on Energy is one of the fifteen Departmental Committees of the National Assembly established under *Standing Order 216* whose mandates pursuant to the *Standing Order 216 (5)* are as follows:

To investigate, inquire into, and report on all matters relating to the mandate, management, activities, administration, operations and estimates of the assigned ministries and departments;

- (i) To study the programme and policy objectives of Ministries and departments and the effectiveness of their implementation;
- (ii) To study and review all the legislation referred to it;
- (iii) To study, access and analyze the relative success of the Ministries and departments as measured by the results obtained as compared with their stated objectives;
- (iv) To investigate and inquire into all matters relating to the assigned Ministries and departments as they may deem necessary, and as may be referred to them by the House;
- (v) To vet and report on all appointments where the Constitution or any law requires the National Assembly to approve, except those under Standing Order No.204 (Committee on appointments);
- (vi) To examine treaties, agreements and conventions;
- (vii) To make reports and recommendations to the House as often as possible, including recommendation of proposed legislation;
- (viii) To consider reports of Commissions and Independent Offices submitted to the House pursuant to the provisions of Article 254 of the Constitution; and
- (ix) To examine any questions raised by Members on a matter within its mandate.

1.2 OVERSIGHT

The Second Schedule to the Standing Orders mandates the Committee to consider matters relating to the Fossils fuels exploration, Development, production, maintenance and regulation of energy. In executing its mandate, the Committee overlooks the performance of the following State departments:-

- (i) Energy, and
- (ii) Petroleum.

1.3 COMMITTEE MEMBERSHIP

The Committee comprises the following Members-

Chairperson

The Hon. David Gikaria, M.P.
Nakuru Town East Constituency

Jubilee Party

Vice Chairperson

The Hon. (Dr.) Robert Pukose, M.P.
Endebess Constituency

Jubilee Party

The Hon. Cecily Mbarire, M.P.
Nominated Member

Jubilee Party

The Hon. Ekomwa Lomenen James, M.P.
Turkana South Constituency

Jubilee Party

The Hon. Joseph Wathigo Manje, M.P.
Kajiado North Constituency

Jubilee Party

The Hon. Lemanken Aramat, M.P.
Narok East Constituency

Jubilee Party

The Hon. Oscar Sudi Kipchumba, M.P.
Kapseret Constituency

Jubilee Party

The Hon. (Eng.) Vincent Musyoka, M.P.
Mwala Constituency

Maendeleo Chap Chap Party

The Hon. Amina Gedow Hassan, M.P.
Mandera Women Representative

Economic Freedom Party

The Hon. Osman A. Mohamed, M.P.
Fafi Constituency

Kenya Africa National Union

The Hon. Clement Muturi Kigano, M.P.
Kangema Constituency

Jubilee Party

The Hon. Elisha Odhiambo, MP
Gem Constituency

Orange Democratic Movement

The Hon. Elsie Muhanda, MP
Kakamega Women Representative

Orange Democratic Party

The Hon. Faith Wairimu Gitau, M.P.
Nyandarua Women Representative

Jubilee Party

The Hon. Julius Musili Mawathe, MP
Embakasi South Constituency

Wiper Democratic Movement-Kenya

The Hon. Ken Chonga, MP
Kilifi South Constituency

Orange Democratic Movement

The Hon Nicholas Tindi Mwale, MP
Butere Constituency
Jubilee Party

The Hon. Walter Owino, MP
Awendo Constituency
Orange Democratic Movement

The Hon. Mohammed Ali Lokiro, MP
Turkana East Constituency
Orange Democratic Movement

1.4 COMMITTEE SECRETARIAT

The Committee is resourced with the following technical staff, representing the Office of the Clerk;

Ms. Rose Wanjohi
Clerk Assistant I

Mr Douglas Katho
Clerk Assistant II

Mr Ronald Walala
Legal Counsel I

Mr Abdirahman Gorod
Fiscal Analyst II

Mr David Ngeno
Research Officer III

Ms. Deborah Mpusi
Media Relations Officer

1.5 ACKNOWLEDGMENT

The Committee appreciates the assistance provided by the Office of the Speaker and the Clerk of the National Assembly that enabled it to discharge its functions in considering the Petition.

On behalf of the Committee, and pursuant to Standing Order, 227 it is my duty to table on the Floor of the House the Report of the Committee on the Petition.

SIGN: _____ DATE: 9-15/19

HON. DAVID GIKARIA, MP

CHAIRPERSON, DEPARTMENTAL COMMITTEE ON ENERGY

2.0 INTRODUCTION

1. The Sixty-Third Annual Regular Session of the International Atomic Energy Agency (IAEA) took place at the United Nations Headquarters in Vienna from the 16th to 20th September 2019. This year's session showcased the dual role of the Agency which is to use Atoms for Peace and Development. The Agency by verifying nuclear material contributes to international peace and security as well as improving the well-being and prosperity of people through peaceful use of nuclear technology.
2. Nuclear technology plays a significant role in the timely diagnosis and effective treatment of cancer. This year's scientific forum was themed "A Decade of Action on Cancer Control and the Way Forward" as a clear indication of Agency's endeavors of helping countries to tackle the cancer burden. The role of Youth and Women was given priority in ensuring inclusivity and gender parity is met at the professional level and above.
3. The main objective of Kenya's attendance of the conference was to reaffirm Kenya's Commitment to the IAEA in the promotion of peaceful uses of Nuclear Science and Technology.
4. The 63rd IAEA General Conference 2019 focused largely on the development and utilization of nuclear technology in realizing the United Nations Sustainable Development Goals with particular emphasis on energy and health care. Generally, the conference presented unprecedented progress in development and utilization of nuclear technology in the higher income economies of the world. Equally revealed were considerable achievements in some middle income economies with glaring gaps in majority of the low and middle income economies.
5. It is therefore imperative that, efforts need to be made if the 21st century generation of humanity is to experience significant equality that is to be gotten through utilization of nuclear technology. In particular Africa must re-dedicate her efforts if she wishes to join in the League of Nations whose citizens are reaping the benefits of nuclear technology. Suffice to say, Africa possesses unparalleled resources for development of nuclear technology.
6. During the GC, Kenya renewed her commitment covering the assistance of IAEA in application of nuclear science in various sectors especially on Kenya's nuclear power programme in terms of trainings, fellowships, scientific visits, expert missions and assistance in review of various documents for the nuclear power programme
7. The IAEA GC paid a specific emphasis on the youth and the young professionals to explore the potential contribution of young generation networks in nuclear majorly in African member states to achieve the socioeconomic development in nuclear achieve science and allied fields, youth engagement opportunities and challenges young people face in embracing the careers and employment in nuclear related field.
8. The panel discussed how the youth skills and knowledge can be fully exploited to reap the benefits of nuclear science and technology applications. This geared toward a structured communication among the young generations to ensure dissemination of information regarding

nuclear opportunities for their engagement and involvement in Nuclear Science and Technology .

9. The IAEA Technical Cooperation Programme is a key mechanism for helping Member States to make optimal use of peaceful nuclear science and technology.

2.1 Human Resources Development (HRD)

10. The Agency has various vacancies and internship opportunities that Member States are eligible to apply. The delegates should encourage the Kenya youth and the qualified experts to register for the IAEA employment platform the TALEO and apply for these opportunities.
11. Kenya needs to increase her human resources for nuclear science and technology to be able to safely manage the growing and expanding centers that uses nuclear science and technology in Human Health, Agriculture, Water Resources Management and Industry.
12. The National Human Resources Needs Assessment and a Database of the Nuclear Science and Technology experts available in the country needs to be undertaken so as to pinpoint the areas of urgent and critical HRD.
13. To tackle the HRD needs it is important that the Country sets up national institutions to be Regional Designated Centre for training in Nuclear Sciences and Technology in Human Health, Agriculture and Livestock, Water Resources Management, Industry –Non-Destructive Test (NDT) and Nuclear Power.

2.2 SIDE EVENTS DURING THE GENERAL CONFERENCE

OBSERVATION	RECOMMENDATIONS	CONCLUSION
<p>14. Illuminating the Hope for Life - the Application of Nuclear Technology in Diagnosis and Treatment of Cancer Worldwide</p>	<ul style="list-style-type: none"> China National Nuclear Cooperation (CNNC) invited interested collaborators, in sharing Nuclear medicine advances and Kenya should take up opportunities. CNNC demonstrated an innovative and proven methods utilized in Nuclear medicine from the lab to the patient which we should also emulate. 	<ul style="list-style-type: none"> Kenya needs to have precision oncology utilizing modern equipment like PET, PET/ CT, SPECT and SPECT/CT. Strategy for development of nuclear medicine ought to factor products like I-131, F-18, Ga-68/Lu-177, Pd-103, Cu-64 and Zr-89 National census data on status of radionuclide consumption should be published periodically leading to development of radionuclide therapeutic drugs.
<p>15. Tour of the Exhibition Booths</p>	<ul style="list-style-type: none"> The Country should therefore aim to showcase the work done during the next General Conference 	<ul style="list-style-type: none"> Kenya has made great progress in the peaceful applications of nuclear science and technology since becoming a member state of the IAEA in 1965.
<p>16. Scientific Forum – A decade of action on cancer control and way forward</p>	<ul style="list-style-type: none"> The rising cases of cancer in the country have been noted with concern. Management of cancer in the country needs to be given high priority. 	<ul style="list-style-type: none"> The IAEA to support the application of nuclear technology to the management of cancer and training of nuclear medicine experts in the country
<p>17. The NICE future Initiative Year 2: The flexible nuclear campaign and the role of nuclear in future clean energy systems.</p>	<ul style="list-style-type: none"> Exploring innovative applications for advanced nuclear systems both electrical and non-electrical. Engaging policy makers and stakeholders regarding energy sources for the future Pooling experience on economics, including valuation, market structures and ability to finance. 	<ul style="list-style-type: none"> That nuclear power has many peaceful uses for instance electricity and power generation, cancer treatment, besides the building of weapons. That Nuclear energy is a form of green energy and it can be useful to reduce carbon emissions from

OBSERVATION	RECOMMENDATIONS	CONCLUSION
	<ul style="list-style-type: none"> Communicating nuclear energy's role in clean integrated energy systems and developing the nuclear workforce of the future. Countries need to build public trust in the safety and security of nuclear power in light of several nuclear disaster. The public need to know that nuclear is safe with the necessary safety protocols and policies adhered to. There is need to reduce the cost of installation and maintenance of nuclear power plants by encouraging the development and use of small modular power plants; Inclusivity of women and Youth in the nuclear science professionals should be encouraged; Training of nuclear professionals and inclusion of nuclear science in schools and universities curriculum is a matter of urgency if we are to continue to have generations in nuclear professions; 	<p>reliance of fossil fuel and therefore go a long way in reducing climate changes;</p> <ul style="list-style-type: none"> Green energy using the traditional sources of water, wind and hydro may not be sustainable in the future due to the increasing demands both from domestic and industrial users, therefore nuclear power can be a solution as an additional source of green energy. The world bank need to change its discriminatory policy on not funding nuclear power plant installations, in order to encourage emerging countries who may not have the financial capacity to do so on their own to seek funding from the World Bank
<p>18. Professional and Community Event presented experience in developing professional, youth and student communities to participate in Nuclear project</p>	<ul style="list-style-type: none"> The role of mentors and Tutors in educating the new generation of scientists and engineers should be enhanced and documented. The contribution of private and public entities to human resource development through early career guidance should be acknowledged. Attachment and internship of young people, and especially women scientist and engineers should be scrutinized 	<ul style="list-style-type: none"> Lack of HRD plan shared by all Stakeholders led by RPB, NuPEA, KeBS, KALRO, KIRDI, KEMRI, NRF, NACOSTI etc. needs to be addressed as a priority. The census of interns and attaches in all the above institutions should be periodically published. Outreach activities to secondary schools and tertiary institutions should be enhanced.

OBSERVATION	RECOMMENDATIONS	CONCLUSION
19. Youth in Nuclear Session	<ul style="list-style-type: none"> Local Universities need to be supported to form their respective chapters for the youth in nuclear. National Nuclear Institutions need to support the Young Generation in Nuclear in all fronts 	<ul style="list-style-type: none"> It is very strategic to involve the youth in our nuclear programs. The IAEA supports the engagement of the youth in nuclear programs. Kenya already has a chapter in the African Young Generation in Nuclear (AYGN) – Kenya Young Generation in Nuclear (KYGN).
20. The Nuclear Knowledge Management (NKM) session	<ul style="list-style-type: none"> Kenya needs to request for such assistance and develop a NKM strategies. 	<ul style="list-style-type: none"> The management of knowledge is important for the sustainability of any program. The IAEA assists Member States to carry out NKM initiatives.
21. Light the way forward : Advanced Light Sources for Peace and Development	<ul style="list-style-type: none"> The broad utility and how light sources foster cooperation between MS should exploited, since Africa is only continent without a light source Kenya should join Ghana and Rwanda who are spearheading African light source. Advanced sources of light (like lasers and synchrotrons) have become prime factors in promoting scientific and technological progress, and Kenya needs to keep abreast with the developments occurring elsewhere. 	<ul style="list-style-type: none"> Light sources are among the most important facilities available for inter-disciplinary research and Innovation.
22. US leadership and experience in the development of advanced reactor technologies	<ul style="list-style-type: none"> Kenya should use similar approaches to set up the appropriate curriculums. Kenya and the African region to adopt this approach in nuclear training. This is not only a cost effective way of training but it also ensures that our training programs meet the required standards. 	<ul style="list-style-type: none"> The US has adopted an approach for common curricula in training of nuclear experts in their local Universities.

OBSERVATION	RECOMMENDATIONS	CONCLUSION
<p>23. Meeting with IAEA PMO, Technical Officer for Dosimetry and NDT</p>	<ul style="list-style-type: none"> IAEA to procure and install Cobalt - 60 calibration system through Dosimetry Project Personnel monitoring equipment to procurement through NDT Project Most Kenyan technicians have expired NDT certificates. IAEA to carry out group training and certification. 	<ul style="list-style-type: none"> The Country to establish national radiation monitoring services, at KeBS The Country establishes a national radiochemistry testing
<p>24. Preparing Future generations to support nuclear power generation using operation experience and lessons learned from operating nuclear power programmes: the veterans' perspective.</p>	<ul style="list-style-type: none"> Development of knowledge management systems to preserve critical information and experience for future generations. The continuous enhancement of the 10 basic principles of global technology culture required for safe, reliable and effective operation of nuclear facilities which makes it acceptable to the public and friendly to the environment, by including safety culture, nuclear culture and ecology culture among others. 	<ul style="list-style-type: none"> Veterans to pass their knowledge to the next generations to avoid a situation where they build nuclear power plants but are unable to upgrade because there are no upcoming professionals Veterans can explain the benefits of nuclear energy including the issues and problems associated with which they can deliver objectively.
<p>25. Tour of the IAEA Radiation Safety Technical laboratory services.</p>	<ul style="list-style-type: none"> The National NDT and Dosimetry(measurement of ionizing radiation in a given place or on a person) laboratories should be encouraged to achieve status of Regional Designated Centres (RDC) 	<ul style="list-style-type: none">
<p>26. Spotlight on Emerging and Expanding Nuclear Countries organized by Brazil and World Nuclear Association.</p>	<ul style="list-style-type: none"> Kenya to invite World Nuclear Association to have a spotlight Africa event Need for Kenya to collaborate with emerging countries (United Arab Emirates, turkey, Belarus, Bangladesh, Ghana) and expanding countries (Brazil, Argentina, China) 	<ul style="list-style-type: none"> Kenya to contribute its shares of the planned 25% of clean and reliable low carbon mix energy using Nuclear power. Have nuclear regulatory regime, independent of the Nuclear promotion agencies

OBSERVATION	RECOMMENDATIONS	CONCLUSION
	<ul style="list-style-type: none"> Human resource development for effective, negotiation with vendor countries 	<ul style="list-style-type: none"> Promote synergies between Government and NGO and professional association for increase public acceptance.
27. Tour of IAEA Analytical laboratories at Seibersdorf	<ul style="list-style-type: none"> National Research Fund (NRF) should fund joint usage of analytical laboratories Equipment like mass spectrometer, particle accelerator and other dual (chemistry, physics, biology, geology) use equipment should be acquired. Joint (universities and government agencies) research projects should be encouraged 	<ul style="list-style-type: none"> Sharing of how analysis of environmental samples are done and publications would result in complete mapping of Kenya geological status Mineral exploration, followed by mining activities would uplift and diversify sources of income Inter-cooperation of Government ministries
28. Tour of IAEA Nuclear Application Laboratories	<ul style="list-style-type: none"> Establishing instrumentation and maintenance laboratories to ensure effective operation of radiation equipment Establishment of National Personnel monitoring for occupational workers and providing the dose records to the radiation protection Board who should publish periodic reports of exposure of workers. 	<ul style="list-style-type: none"> Use of radio- Isotope for fighting goods (food) counterfeit Students (KMTC, Universities, INST) in Kenya are not provided with personal dosimetry monitoring devices. Periodic calibration of medical and industrial equipment should be mandatory especially after maintenance (routine, repair)
29. Attended African Regional Co-operative Agreement for Research, Development and Training Related to Nuclear Science and Technology (AFRA)	<ul style="list-style-type: none"> Human capacity building and involvement of women and professional registering TALEO Endorsement of resolutions from technical working group meeting, Conduct assessment of the impact of AFRA on Social Economic development of members state 	<ul style="list-style-type: none"> More coordination meetings, workshops and seminars should be held in Africa member states Impactful regional designated centers will promote self-reliance and sustainability Nuclear research and collaboration with national, regional and international institutions like AFCONE, AU.

3.3 Bilateral Meetings

30. During the Bilateral meetings with the IAEA, the implementation of the national programmes is progressing well though a further increase rate of absorption of the allocated funds needs to be accelerated. For the new projects, the counterpart's institutions ought to pay the National Participation Costs (NPC) well in advance (October 2019) so that the projects can start in January 2020. On the same note all the fellowships and scientific visits should be submitted by 30th November 2019 for implementation in 2020.
31. During the 63rd General conference the following achievements were realized from the various bilateral meetings:
 - i. Signing of the Internet Reactor Laboratory for training and teaching of Kenyans students in nuclear field.
 - ii. Training opportunities for the Kenyans in the field of nuclear medicine and cancer management
 - iii. The opportunity to further push and realize the Peaceful Uses Initiative from the US
 - iv. The support from the IAEA through the Technical Cooperation and Nuclear Infrastructure Development Section (NIDS) to the nuclear power programme and nuclear science and technology.

3.4 Kenya's Presentation During the 63rd General Conference

32. During the 63rd GC, several Kenyan delegates were in panel discussions as panelists and made presentations on various topics.
 - i. At the scientific forum, Ms. Catherine Nyongesa, Chief Oncologist presented on "Kenya's experience in setting up comprehensive cancer control"
 - ii. The CEO of NuPEA Eng. Collins Juma, MBS was a panelist on the NICE initiative and also at the IFNEC side event.
 - iii. At the side event of the World Nuclear Association Dr. David Otwoma gave a presentation on Human Resource Development to support NPP.
 - iv. For the youth in nuclear side event, Mr. Rafael Chesori was a panelist at the side event underscored the need to involve the young generation in matters nuclear science and technology
 - v. The CEO of RPB Mr. Joseph Maina also gave a presentation on EU CBRN CoE initiative on the progress of the establishment of the CoE in the Eastern and Southern Africa region.
33. The NLO has played a crucial role in coordinating the IAEA activities. The need for further engagement and reaping maximum benefit on peaceful application of nuclear science and technology is imperative.
34. Nuclear power makes a significant contribution to reducing greenhouse gas emissions worldwide, while at the same time fulfilling the increasing energy demands of a growing world population and supporting global sustainable development.

35. Kenya reaffirms its support to the Agency's activities and thanks the Agency for the invaluable contribution towards expanding and promoting peaceful uses of nuclear science and technology for development.
36. It is important that the benefits and importance of the Nuclear Science and Technology be communicated to all including the policy and decision makers so that the conversation on Nuclear Science be given the priority it deserves. We need to tell our Story.

3.0 DELEGATION'S OBSERVATIONS

The Committee observed that:-

- i. Kenya is a leading proponent of green energy with over 70 % of the electricity generated and added to the National grid from hydro, wind and solar.
- ii. Nuclear energy is a form of green energy and does not use fossil fuels which are contributing to climate change.
- iii. Nuclear technology is being emphasized to play a significant role in the timely diagnosis and effective treatment of cancer.
- iv. Kenya needs to increase her human capital for nuclear science and technology to be able to manage the increasing needs and infrastructure that uses nuclear science and technology in Human health, Agriculture, water resource management and industry.

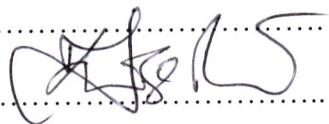
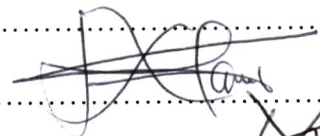

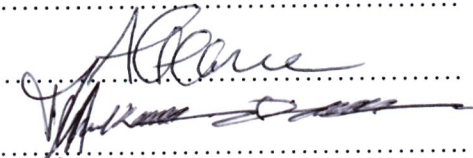
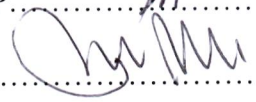




5.0 DELEGATION'S RECOMMENDATIONS

The Delegation after deliberations recommends that:-

- 1. Nuclear energy for electricity generation is a priority in the long-term to be included in the energy mix conscious of the fact that nuclear power is low carbon energy source. It does contribute to the mitigation of the impact of climate change and the achievement of SDGs.**
- 2. The Country assents to the international Treaties and Conventions on nuclear safety and security including expressing political support to the code of conduct for safety and security for radioactive sources.**
- 3. The Country calls for national research proposals in support of at least four multidisciplinary-multi institution projects focusing on cancer control and food security based on Nuclear Technology.**
- 4. The International Atomic Energy Agency (the Agency) to successfully conclude the ongoing collaborative work in equipping Moi Teaching & Referral Hospital (MTRH).**
- 5. In an effort to take care of the access to the cancer treatment services, the Government to embark on establishing more cancer centers.**
- 6. In order to build adequate human resource capacity, the Country collaborates with the Agency, to establish local training programmes and centres for relevant health professionals.**

ADOPTION LIST

WE, THE MEMBERS OF THE DEPARTMENTAL COMMITTEE ON ENERGY, HAVE PURSUANT TO STANDING ORDER 199, ADOPTED THIS REPORT ON THE INTERNATIONAL ATOMIC ENERGY AGENCY (IAEA) 63RD GENERAL CONFERENCE HELD FROM 16TH TO 20TH SEPTEMBER, 2019, VIENNA, AUSTRIA AND AFFIRM OUR APPROVAL AND CONFIRM ITS ACCURACY, VALIDITY AND AUTHENTICITY TODAY 9/10 OCTOBER 2019:

1. The Hon. David Gikaria, MP. Chairperson..... 
2. The Hon. (Dr) Robert Pukose, MP - Vice Chairperson
3. Hon. Cecily Mbarire, MP.....
4. Hon. Ekwoma Lomenen James, MP..... 
5. Hon. Joseph Waithigo Manje, MP..... 
6. Hon. Lemanken Aramat, MP.....
7. Hon. Oscar Sudi Kipchumba, M.....
8. Hon. (Eng.) Vincent Musyoka Musau, MP.....
9. Hon. Amina Gedow Hassan, MP..... 
10. Hon. Abdikahim Osman Mohamed, MP.....
11. Hon. Clement Muturi Kigano, MP..... 
12. Hon. Elisha Odhiambo, MP
13. Hon. Elsie Muhanda, MP..... 
14. Hon. Gitau Faith Wairimu, MP.....
15. Hon. Julius Musili Mawathe, MP..... 
16. Hon. Ken Chonga, MP.....
17. Hon. Mohamed Ali Lokiro, MP.....
18. Hon. Tindi Nicholas Mwale, MP..... 
19. Hon. Walter Owino, MP..... 

MINUTES

MINUTES OF THE 8TH SITTING OF THE DEPARTMENTAL COMMITTEE ON ENERGY AND PETROLEUM CONFERENCE ROOM, B2, ENGLISH POINT, MARINA, MOMBASA ON FRIDAY 4TH OCTOBER, 2019 AT 10:00AM

Robert Pukose, M.P. - Vice Chairperson
na Gedow Hassan, M.P.
nanken Aramat, M.P.
ndi Nicholas Mwale, MP
Walter Owino, MP
Joseph Wathigo Manje, M.P.
n. Julius Musili Mawathe, MP
on. Gitau Faith Wairimu, M.P.
Hon. Elisha Odhiambo, MP

APOLOGIES

1. The Hon. David Gikaria, M.P. - Chairperson
2. The Hon. Cecily Mbarire, M.P.
3. The Hon. Abdikhaim Osman Mohamed, M.P.
4. The Hon. Clement Muturi Kigano, M.P.
5. The Hon. Ekomwa Lomenen James, M.P.
6. The Hon. Mohammed Ali Lokiro, MP
7. The Hon. Richard Chonga, MP
8. The Hon. Elsie Muhanda, MP
9. The Hon. Oscar Sudi, Kipchumba, M.P.
10. The Hon. Eng. Vincent Musyoka Musau, M.P.

IN ATTENDANCE

COMMITTEE SECRETARIAT

1. Ms. Rose M. Wanjohi - Clerk Assistant I
2. Mr. Ronald Walala - Legal Counsel
3. Mr. Abdirahman Gorod - Fiscal Analyst
4. Mr. David Ngeno - Research Officer
5. Ms. Christine Maeri - Audio Officer
6. Ms. Sheila Chebotibin - Serjeant-At-Arms

AGENDA

1. Prayers
2. Preliminaries/Introductions/Communication from the Chair
3. Confirmation of Minutes
4. Matters Arising
5. Report writing retreat for consideration of draft report
6. Adjournment/ Date of the next meeting

MIN. NO. NA/ENERGY/2019/ 320: PRELIMINARIES AND ADOPTION OF AGENDA

The Chairperson called the meeting to order at fifteen minutes past...
said. Self- introductions were made by those present

MIN. NO. NA/ENERGY/2019/321: CONFIRMATION OF MINUTES

The Agenda item was deferred

MIN. NO. NA/ENERGY/2019/322: CONSIDERATION AND ADOPTION OF
REPORT ON THE AFRICA OIL, GAS
ENERGY CONFERENCE HELD IN FRASER
SUITES, PERTH, AUSTRALIA

The Committee heard that the Africa Oil, Gas and Energy Conference was held in Fraser Suites, Perth, Australia, ostensibly to provide a platform for connecting professionals from the Australian oil and gas sector with African local Oil, Gas and Energy experts, government officials, projects and investment opportunities.

The Conference is an annual event held in Perth Australia to assist major Australian oil, gas and energy players to better engage with the new developments in the complex and fast-moving Africa oil, gas and energy industry. It provides a stage where Australian companies whose focus is on oil, gas and energy are apprised on opportunities in Africa at this time of great challenges in the oil, gas and energy industry.

The conference discussed wide ranging benefits including bringing Africa oil, gas and energy focus to Australia. It also explored possibilities of giving small Australian companies engagement opportunities with relevant officials from Africa, networking and exposure to the African market as well as keeping abreast of all the latest developments – geopolitical, industrial and technological updates.

The conference further provided a joint round table discussions that gave a unique interaction with all interested parties who also got the chance of sharing accurate and up to date information on Africa's oil, gas and energy activities and investment perspectives as well as case studies from the African market.

Committee Observations

The Committee observed that:-

1. African Countries have huge potential in oil and gas and have remained critical sources of energy.
2. The use of new technology in the oil and gas industry in Africa was still low.
3. Governments play a critical role in safeguarding the interest of the citizens and those of investors in the oil, gas and energy industry.
4. The extraction of oil and gas impacts positively on the economic and social aspects of the citizens.
5. There is exponential value in the use of drone technology in the monitoring of oil pipelines

Committee Recommendations

Committee recommends that:-

1. Kenya should take advantage of technology to exploit the existing oil and gas potential to the benefit of her people;

2. There should be proper and clear production sharing agreements (PSC) on exploitation of the oil and gas between Kenyan Government and potential investors so that both interests are safeguarded;
3. Kenyan companies can use drones for surveillance of their lines since they are cheap and quite flexible to suit majority of inspections with minimal costs; and
4. Social and environmental impacts should be mitigated and Corporate social responsibilities be enhanced.

The draft Report on the Africa Oil, Gas and Energy Conference held in Fraser Suites, Perth, Australia from 2nd to 7th September 2019 was unanimously adopted as proposed by Hon. Elisha Odhiambo, MP and seconded by Hon. Walter Owino, MP.

MIN. NO. NA/ENERGY/2019/323: CONSIDERATION AND ADOPTION OF THE DRAFT REPORT ON THE INTERNATIONAL ATOMIC ENERGY AGENCY (IAEA) 63RD GENERAL CONFERENCE IN VIENNA, AUSTRIA, FROM 16TH TO 20TH SEPTEMBER, 2019.

The Committee heard that 63rd IAEA General Conference 2019 focused largely on the development and utilization of nuclear technology in realizing the United Nations Sustainable Development Goals with particular emphasis on energy and health care. Generally, the conference presented progress in development and utilization of nuclear technology in the higher income economies of the world. Equally revealed were considerable achievements in some middle income economies with glaring gaps in majority of the low and middle income economies.

It is therefore imperative that, efforts need to be made if the 21st century generation of humanity is to experience significant equality that is to be gotten through utilization of nuclear technology. In particular Africa must re-dedicate her efforts if she wishes to join in the League of Nations whose citizens are reaping the benefits of nuclear technology. Suffice to say, Africa possesses unparalleled resources for development of nuclear technology.

During the GC, Kenya renewed her commitment covering the assistance of IAEA in application of nuclear science in various sectors especially on Kenya's nuclear power programme in terms of trainings, fellowships, scientific visits, expert missions and assistance in review of various documents for the nuclear power programme

The IAEA GC paid a specific emphasis on the youth and the young professionals to explore the potential contribution of young generation networks in nuclear majorly in African member states to achieve the socioeconomic development in nuclear achieve science and allied fields, youth engagement opportunities and challenges young people face in embracing the careers and employment in nuclear related field.

Committee Observations

The Committee observed that:

1. Kenya is a leading proponent of green energy with over 70 % of the electricity generated and added to the National grid from hydro, wind and solar.
2. Nuclear energy is a form of green energy and does not use fossil fuels which are contributing to climate change.

3. Nuclear technology is being emphasized to play a significant role in the timely diagnosis and effective treatment of cancer.
4. Kenya needs to increase her human capital for nuclear science and technology to be able to manage the increasing needs and infrastructure that uses nuclear science and technology in Human health, Agriculture, water resource management and industry.

Committee Recommendations

The Committee after deliberations recommends that:-

1. Nuclear energy for electricity generation is a priority in the long-term to be included in the energy mix conscious of the fact that nuclear power is low carbon energy source. It does contribute to the mitigation of the impact of climate change and the achievement of SDGs.
2. The Country assents to the international Treaties and Conventions on nuclear safety and security including expressing political support to the code of conduct for safety and security for radioactive sources.
3. The Country calls for national research proposals in support of at least four multidisciplinary-multi institution projects focusing on cancer control and food security based on Nuclear Technology.
4. The International Atomic Energy Agency (the Agency) to successfully conclude the ongoing collaborative work in equipping Moi Teaching & Referral Hospital (MTRH).
5. In an effort to take care of the access to the cancer treatment services, the Government to embark on establishing more cancer centers.
6. In order to build adequate human resource capacity, the Country collaborates with the Agency, to establish local training programmes and centres for relevant health professionals.

The draft Report on the International Atomic Energy Agency (IAEA) 63rd General Conference in Vienna, Austria: 16th to 20th September, 2019 was unanimously adopted as proposed by Hon. Walter Owino, MP and seconded by Hon. Joseph Manje, MP.

MIN. NO. NA/ENERGY/2019/324: CONSIDERATION OF DRAFT REPORT OF THE PETITION REGARDING DEMOLITION OF HOUSES IN CHOKAA, EMBAKASI EAST BY KENYA POWER LIMITED

The Committee heard the Petition regarding demolition of houses in Chokaa, Mihango area in Embakasi East Constituency by the Kenya Power Limited was committed to the Energy committee on the 20th June 2019 for consideration and preparation of a report within 60 days. The Committee considered the petition pursuant to the provisions of Standing Order 227.

The petitioners prayed through the National Assembly, that it inquiries into the status of ownership of land in Chokaa, Mihango area to establish whether or not the said land falls within power line way leave; inquiries into circumstances under which demolitions were indiscriminately effected, hence affecting residents who had not encroached on Kenya power way leaves; and engages the Cabinet Secretary for energy to provide information regarding the demolitions in Chokaa, Mihango areas and measures the government has instituted to settle the displaced residents, assist them to return to normal lives and compensate innocent residents whose property were destroyed.

In considering the petition, the Committee invited the petitioners, and received submissions from various state agencies and made a site visit. During the site visit, the Committee held meetings with area leadership including the Deputy County Commissioner (D.C.C), the Area Member of

Parliament (MP), the Members of the County Assembly (MCA), senior staff from KPLC, other local leaders and Church leaders.

COMMITTEE OBSERVATIONS

The Committee observations that: -

1. The residents have lived in the area over a long period of time.
2. The residents have documents such as share certificates and sale agreements as proof of ownership of the property.
3. Over time the structures were constructed under the watch of the government officials both national and city county government of Nairobi.
4. There were evidences of structural facilities such as water and electricity connections as well as road access. KPLC provided electricity connectivity and received payments for services it rendered.
5. There was massive loss of property and disruption of livelihood of the residents upon demolition of the houses.
6. There was evidence of high voltage power lines in the area and habitation beneath them was dangerous.
7. Some cases are still pending in court

COMMITTEE RECOMMENDATIONS

The Committee recommends that: -

1. The National Land Commission investigates the claims of ownership to ascertain the ownership of the land within ninety (90) days;
2. KPC shall not make power connections to customers to areas designated as wayleaves and any KPC officer contravening the same will be personally liable;
3. The DCI investigates the alleged illegal allocations, irregular approvals of constructions and utility connections in Chokaa, Embakasi East Constituency with a view of seeking redress within ninety (90) days; and
4. There should be a humane way to remove persons from encroached areas and the Committee recommends that the affected persons seek redress through the court of law.

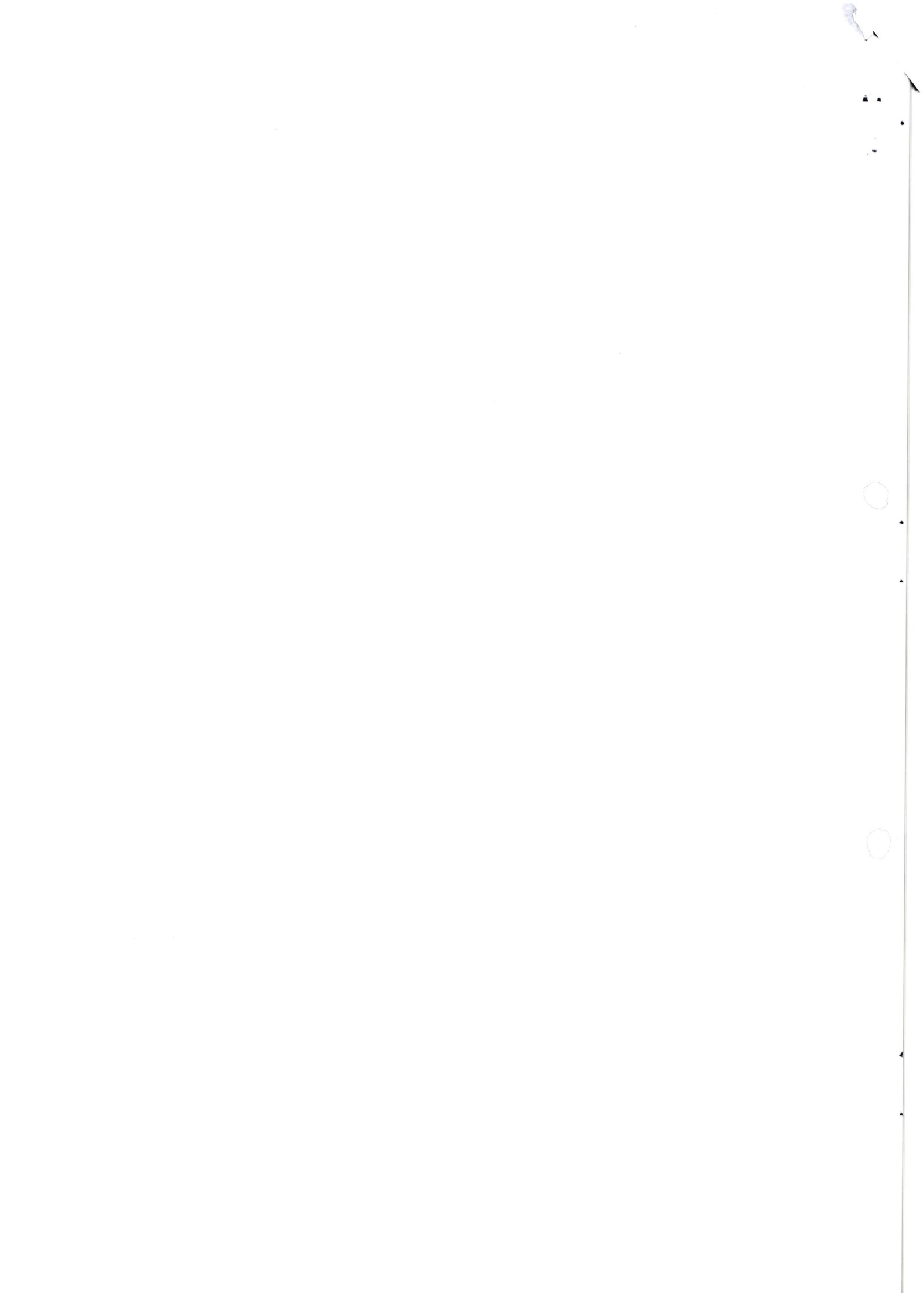
The draft Report on the petition regarding demolition of houses in Chokaa, Embakasi East Constituency by the Kenya Power Limited was unanimously adopted as proposed by Hon. Amina Gedow, MP and seconded by Hon. Nicholas Tindi Mwale, MP.

MIN. NO. NA/ENERGY/2019/325: ADJOURNMENT/ DATE OF NEXT MEETING

There being no other business, the meeting was adjourned at fifteen minutes past one o'clock. The next meeting will held on notice.

SIGNED.....
(CHAIRPERSON)

DATE.....



ANNEXURES

NO	NAMES	ORGANIZATION	DESIGNATION
1.	Eng. Collins Gordon Ondunga JUMA	Nuclear Power and Energy Agency	Head of Delegation: Chief Executive Officer & National Liaison Officer
2.	Nilly Kanana	Permanent Mission Vienna	Charge D'Affaires- Kenya Embassy
3.	Hon. Vincent Musyoka MUSAU	National Assembly	Leader of Delegation for the Member of Parliament
4.	Hon. Richard Chonga KITI	National Assembly	Member of Parliament
5.	Hon. Elsie Busihile MUHANDA	National Assembly	Member of Parliament
6.	Hon. Julius Musili Mawathe KITAVI	National Assembly	Member of Parliament
7.	Hon. John Walter OWINO	National Assembly	Member of Parliament
8.	Mr. Ezra Odondi ODHIAMBO	Nuclear Power and Energy Agency	Chairman
9.	Ms. Josephine Odira SINYO	Nuclear Power and Energy Agency	Board Member
10.	Humphrey Rutto	Permanent Mission Vienna	Kenyan Embassy
11.	Ms. Teresia Mbaika MALOKWE	Nuclear Power and Energy Agency	Board Member
12.	Mr. Edwin Kipkemboi CHESIRE	Nuclear Power and Energy Agency	National Liaison Assistant
13.	Ms. Einadine Mumji SINYO	Nuclear Power and Energy Agency	Aide to Josephine Odira Sinyo
14.	Mr. David OTWOMA	National Commission for Science & Technology	Chief Science Analyst
15.	Mr. Michael James Gatari GICHURU	University of Nairobi	Director Institute of Nuclear Science and Technology
16.	Mr. Joseph Abrahams Wamburu MAINA	Radiation Protection Board	Board Secretary/Chief Executive Officer
17.	Mr. John Masasbi WEKESA	Radiation Protection Board	Board Member and Director General Ministry of Health

18.	Dr. Vincent Gichuru GAITHO	National Research Fund	Board Member
19.	Ms. Jemimah Gesare ONSARE	National Research Fund	Ag. Chief Executive Officer
20.	Mr. Anthony Ndiritu NDIRITU	Kenyatta National Hospital	Consultant Clinical and Radiation Oncologist
21.	Mr. Henry Kibet ROTICH	Kenya Bureau of Standards	Director Metrology and Testing
22.	Mr. Collins OMONDI	Kenya Bureau of Standards	Head of Dosimetry Lab
23.	Mr. Robert Kibet YATICH	Moi Teaching and Referral Hospital	Medical Oncologist
24.	Mr. Nadir Omar HASHIM	Kenyatta University	National Coordinator, AFRA-NEST
25.	Prof. Paul Kuria WAINAINA	Kenyatta University	Vice-Chancellor
26.	Ms. Agnes Wanjiru MBUGUA	Ministry of Water, Sanitation and Irrigation	Head of Water Research and Data Division
27.	Rose Wanjohi	National Assembly	National Assembly Clerk



**KENYA'S STATEMENT AT THE 63RD REGULAR SESSION OF THE GENERAL
CONFERENCE OF THE INTERNATIONAL ATOMIC ENERGY AGENCY
16TH TO 20TH SEPTEMBER, 2019.
VIENNA, AUSTRIA.**

**DELIVERED BY ENG. COLLINS G. JUMA MBS, CHIEF EXECUTIVE OFFICER,
NUCLEAR POWER AND ENERGY AGENCY**

ON

18TH SEPTEMBER, 2019

**Madam President,
Acting Director General,
Distinguished Delegates,
Ladies and Gentlemen,**

Madam President,

I take this opportunity to congratulate you on your election as President of this General Conference. I assure you of my delegation's full support.

On behalf of Kenya, I would like to pay tribute to the late Director-General Dr. Yukiya Amano. We acknowledge with appreciation his great contribution to the Agency's work especially in promoting peaceful uses of nuclear technology.

Madam President,

Kenya attaches great importance to the Agency's role in promoting the practical applications of nuclear science and technology which is integral in the achievement of national priorities and sustainable development goals.

Kenya continues to cooperate with the Agency through Technical Cooperation (TC) Projects in both National and Regional TC Projects as identified in the Country Programme Framework (CPF) 2017-2022.

Madam President,

Kenya's current national development priorities include universal health care, enhancing manufacturing, food security and nutrition and affordable housing. Energy is a key enabler in the implementation of the country's development plan. In March 2019, the Energy Act 2019 was signed, which among other provisions, provides for nuclear energy as one of the sources of generation of affordable, reliable and clean electricity in the country to meet her future electricity demand.

I wish to reiterate that Kenya has considered Nuclear energy as a potential priority in the long-term electricity generation to be included in the energy mix taking into account

that nuclear power is low carbon energy source that contributes to the mitigation of the impact of climate change and the achievement of SDGs.

Kenya welcomes the Agency's continued support in enhancing planning capabilities for the establishment of a nuclear power programme and in implementing the recommendations of the Integrated Nuclear Infrastructure Review Mission (INIR) through the Integrated Work Plan (IWP). This is essential in developing a safe, secure and sustainable nuclear power programme.

Madam President,

With a view to strengthening nuclear safety and security regime as a state responsibility, Kenya has taken significant steps in improving the existing legal and regulatory framework for the peaceful uses of nuclear science and technology. In this context, the Nuclear Regulatory Bill is undergoing the final legislative process towards enactment. Further, Kenya recognizes the importance of assenting to relevant international Treaties and Conventions on nuclear safety and security including expressing political support to the code of conduct for safety and security for radioactive sources.

Madam President,

Kenya's population is about 52 million with an annual mortality of 33,000 due to cancer with 48,000 annual new incidences, eighty percent (80%) of those diagnosed with cancer need radiotherapy services.

In effort to take care of the access to the services, the Kenya has embarked on establishment of five more cancer centers. In order to build adequate human resource capacity for these facilities, the country in collaboration with the Agency, has endeavored to establish local training programmes for relevant health professionals.

Kenya is grateful for the Agency's ongoing support, in the expansion of radiotherapy services in Kenya and looks forward to successful conclusion of the ongoing collaborative work.

My delegation expresses gratitude to the Agency for dedicating this year's Scientific Forum to Cancer Control and the Way Forward.

Madam President,

Agriculture is key to Kenya's development and contributes 26 percent of the Gross Domestic Product (GDP) and employs 70% of the total workforce. However, consistent drought spells, animal and plant pests and related diseases remain a serious problem and are one of the main causes of food insecurity. To tackle these challenges, the Government is expanding the use of irrigation, improving soil productivity and encouraging the use of efficient water management practices, while considering climate change impact on water scarcity, soil degradation and potential desalinization.

Kenya expresses gratitude to the continued capacity building by the Agency in nuclear techniques in agriculture, which has assisted in the development of irrigation schemes, developing and testing of drought and insect resistant crop varieties.

In Animal production, efforts have focused on breeding new varieties of fodder to address feed quality and sufficiency challenges in the beef and milk production chains. The use of nuclear techniques to evaluate and improve the impact of animal feeds on the performance of smallholder dairy cows has led to an increase in milk production by 72% of the cows fed the improved animal feeds.

Madam President,

In building the local Human Capital to safely apply Nuclear Science and Technology, the Institute of Nuclear Science & Technology at the University of Nairobi, is the focal point for teaching and training. Kenya continues to benefit from Agency through funding for training of personnel and procurement of scientific equipment through Technical Cooperation Projects. Kenya requests the Agency to continue supporting the Institute of Nuclear Science and Technology and also to consider making it a Regional Designated Centre for training in Nuclear Science and Technology. Further, we request and welcome Member States with relevant expertise and institutions to collaborate with the Institute in order to catapult it to the required level to serve national and regional needs.

To promote standards, quality and accuracy in nuclear application, the Kenya Bureau of Standards (KEBS) through the Agency's support is currently expanding its scope to cover calibration in diagnostic imaging and radiotherapy application. The project will ensure

accuracy and traceability of equipment that utilize ionizing radiation for both medical and industrial applications.

Madam President,

Water is life. We thank the Agency for technical training and conducting water resources assessments with a view of ensuring proper management and utilization of water resources for development. We are glad to share that Kenya, in conjunction with Agency, established and continues to equip the National Isotope Hydrology Laboratory.

Kenya also commends the Agency for the support in capacity building particularly in marine environment. Kenya continues to benefit from the training programmes in marine pollution, and use of nuclear technology in mitigating climate change.

Madam. President,

Kenya applauds the Agency on the ongoing preparatory work on the upcoming International Conference on Climate Change and the Role of Nuclear Power. My country considers climate change as one of the most important issues the world is facing today, noting that nuclear power can make a significant contribution to reducing greenhouse gas emissions worldwide, while at the same time fulfilling the increasing energy demands of a growing world population and supporting global sustainable development.

Madam President,

In conclusion, Kenya reaffirms its support to the Agency's activities and thanks the Agency for the invaluable contribution towards expanding and promoting peaceful uses of nuclear science and technology for development.

Finally, Madam President, I would like to wish the 63rd Regular Session of the IAEA General Conference success in all its deliberations.

Thank You!

INTERNET REACTOR LABORATORY PROJECT

Background Information on the Internet Reactor Laboratory

The IAEA's Internet Reactor Laboratory (IRL) project is a cost-effective way to educate groups of students in reactor physics, and can assist States in educating the human capital needed for ensuing nuclear undertakings. The IRL enables live immersion into reactor technology and operation to countries that otherwise have no installed facilities, but have groups of students ready to undertake experimental reactor physics courses (usually in the third or fourth year of an undergraduate degree, or during a master's degree course).

The IRL works by giving access to reactor experiments in a remote location via an internet link. Using hardware and software installed in a research reactor in the host state, signals are sent over the internet to the guest institution, where a real-time display of the reactor's control room is visible to students. Then, using video conference equipment, students at the guest institution can interact with operators in the reactor control room to "conduct experiments" by asking the reactor operators to change reactor settings and seeing the real-time displays change accordingly.

A proof of principle for the IRL was successfully completed in September 2010, when the United States' North Carolina State University (NCSU) and the Jordan University of Science and Technology (JUST) commenced operations.

Following the success of the NCSU–JUST distance learning project, and with financial support from the U.S. State Department, the IAEA began to put into place the global IRL project. Host reactor facilities were identified in two regions. For Latin America, this facility is the RA-6 research reactor, which is located at the National Atomic Energy Commission's Bariloche research centre (Centro Atómico Bariloche) in Argentina; while in Europe, the facility is the ISIS research reactor, located at the CEA-National Institute for Nuclear Science and Technology at the Saclay research centre in France. Both reactors have been used extensively in both national and international nuclear education and training.

Expansion of the concept is under development for the Asia Pacific and Africa Regions. For this purpose, the MA-R1 reactor from the National Centre for Nuclear Energy, Science and Technology (CNESTEN) was assessed in 2017 by the IAEA and was qualified to become the host reactor for Africa Region. The signature on 1 March 2018 of the Agreement between the IAEA and CNESTEN concerning the establishment of the Internet Reactor Laboratory (IRL) Project in Africa (IRL Project Agreement) allows to add a practical component to the nuclear curriculum in a highly cost-effective way.

Member States may enlist in the Project – as Guest Institutions – as budget and scheduling allows, though in principle, the IAEA would like to see as many African states using the IRL as possible.

Curriculum

In the Africa Region, CNESTEN has agreed to schedule and broadcast the 6 (six) Core Experiments in a year, plus an introductory video conference to orient students; the exact schedule will be agreed upon with Guest Institutions. Guest Institutions will integrate these six laboratories into their current curriculum. Other laboratories may be arranged as requested by Guest Institutions, and if CNESTEN has availability.

CNESTEN will provide the curriculum in the form of laboratory experimental protocols for the Guest Institutions to use. However, there is no presumption that other curricula outside of these lab protocols will be provided. All courses will be taught by instructors from CNESTEN, in collaboration with instructors at the Guest Institutions. Should the Guest Institutions wish to acquire other curricula from CNESTEN, this may be negotiated between the two parties individually.

The following table gives a model of the IRL operation schedule during one semester. The actual schedule will have to be defined and agreed upon, according to the educational programmes of the participating Guest Institutions.

Week	Host Site	Guest Site	Activity
1	-	Lecture	Introduction to Course & MA-R1
2	-	Lecture	Theory for Exp.#1 (Reactor Startup Demonstration)
3	Experiment	Experiment	Exp.#1 (Reactor Startup Demonstration)
4	-	Lecture	Student Presentation for Exp.#1 Theory for Exp.#2 (Approach to Criticality Experiment)
5	Experiment	Experiment	Exp.#2 (Approach to Criticality Experiment)
6	-	Lecture	Student Presentation for Exp.#2 Theory for Exp.#3 (Reactivity Measurement)
7	Experiment	Experiment	Exp.#3 (Reactivity Measurement)
8	-	Lecture	Student Presentation for Exp.#3 Theory for Exp.#4 (Rod Worth Measurement)
9	Experiment	Experiment	Exp.#4 (Rod Worth Measurement)
10	-	Lecture	Student Presentation for Exp.#4 Theory for Exp.#5 (Reactor Dynamics)
11	Experiment	Experiment	Exp.#5 (Reactor Dynamics)
12	-	Lecture	Student Presentation for Exp.#5 Theory for Exp.#6 (Measurement of Reactor Power)
13	Experiment	Experiment	Exp.#6 (Measurement of Reactor Power)
14	-	Lecture	Student Presentation for Exp.#6 Examination
15	Presentation	Presentation	Student Group Competition for the Best Presentation
16	-	Lecture	Wrap-up Class

Finally, though there are multiple reactors hosting the IRL, they are encouraged to work together to offer a similar set of experiments, so that Guest Institutions may rely on any host to provide similar experiments.

EU CBRN COE INITIATIVE – EASTERN AND CENTRAL AFRICA

- Regional Overview**
- PROJECT 60 – Support to the EU CBRN ECA COE in Nuclear Security**
- Achievements, Lessons, Challenges, Opportunities**
- Kenya Experience**

Joseph Maina – Head of Secretariat
Eastern and Central Africa Region
Nairobi, Kenya

Overview – Regional Initiatives

- Appointment and Empowerment of NFPs, NTs
- Regional Needs Assessments and development of National Action Plans
- Trainings, TTX and FXs
- Regional project(s) implementation
 - P60 – Support in Nuclear Security
 - P66 – Combatting Falsified Medicines (MEDISAFE)
- Interregional cooperation
 - Africa CBRN CoEs and Other Regions
- engagement of the African Union

P60 Achievements – Regional Workshops

- **Safety/Security (Cradle-to-grave)**
 - improved approach to safety and security
 - understand int’nl instruments/recomm/best pract
- **EPR plans**
 - update national EPRs (where existing) OR develop
- **Register, Accountancy and Control**
 - understand requirements/importance of inventory, accountancy and control
- **TTX and FX** – for interactive understanding

First Expert Mission – P60

- **review implementation topics (national level)**
 - better understand scope of project
 - identify gaps and needs for assistance
 - improve legislation (especially regulations)
 - improve or draft SOPs; related action plan
 - review current arrangements on management of used, disused and orphan sources
 - identify detection equipment available and related needs
 - including tech. specs for consideration – another project?
- **helped improve (advisory) PPS of national storage facility for disused and orphan sources in Kenya**

Expert mission – inventory, accountancy and control

- helped install latest version of regulatory tool
 - a step towards harmonization and synergy
- RN regulators trained – use and customize tool to national needs
- **FX – search, identification and recovery of orphan sources**
 - Improved knowledge on radiation detection equipment, procedures and tactical exercises
 - decision makers and first responders and to make them to interact with each other

Train The Trainers (TTT)

- helped train experts from different PCs and organizations
 - theoretical and practical (case studies, facility visits, inspection simulation, use of detection equipment)
- provided Trained Trainers with ready-to-use presentations and procedures
- clarity and guidance on knowledge dissemination (to relevant organizations and individual officers in respective PCs).

LESSONS

- Continue to engage Gvts of PCs to recognize/adopt CBRN deliverables (NAP, EPR)
- coordination and collaboration with other actors/players in the CBRN field
 - Local, Regional and International
- emerging issues – not foreseen in initial Project proposal (x-border movement, etc)

CASE EXPERIENCE – KENYA

- EPR – terror attack in Nairobi – 15 Jan '19



Equipment and PPE testing –
Lessons and Experience from FXs



Coordination and Collaboration – Lessons
and Experience from TTxs

Nuclear Security = Illicit Trafficking



Commodity identification – impact of training, tactical FXs and TTXs and Drills

Physical Security System - CRWPF



Radwaste – Safety and Security



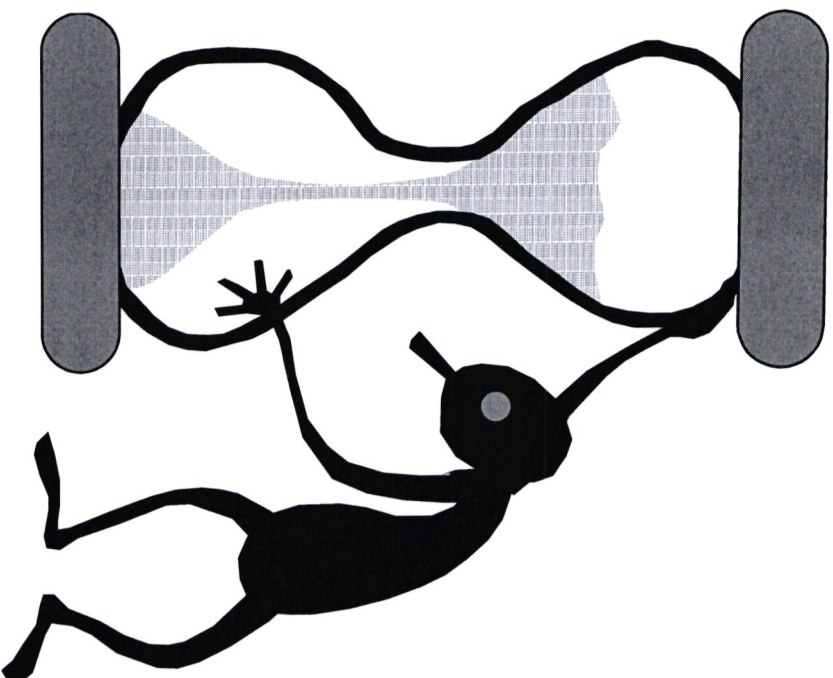
Challenges

- Cooperation and collaboration
- Inadequate/Harmonized Legal and Regulatory Frameworks
- Capacity – dedicated teams (EPR, Equip)
- Dynamism – threats, policies, people, environment, professions ..
- Govt Commitment and Support

Opportunities

- cover emerging issues – Project extension
- dynamics in nuclear security (isotope production, radiopharma, ...) – build on Project legacy
- cooperation – national, regional, interregional
- Strategic direction and Sustainability
- Regional CBRN Strategy

THANK YOU



CHAIRPERSON'S FOREWORD

The Sixty-Third Annual Regular Session of the International Atomic Energy Agency (IAEA) took place at the United Nations Headquarters in Vienna from the 16th to 20th September 2019. This year's session focused on the dual role of the Agency which is to use Atoms for Peace and Development. The Agency by verifying nuclear material contributes to international peace and security as well as improving the well-being and prosperity of people through peaceful use of nuclear technology.

Nuclear technology plays a significant role in the timely diagnosis and effective treatment of cancer. This year's scientific forum was themed "A Decade of Action on Cancer Control and the Way Forward" as a clear indication of Agency's endeavours of helping countries to tackle the cancer burden. The role of Youth and Women was given priority in ensuring inclusivity and gender parity is met at the professional level and above.

The Committee is grateful to the Offices of the Speaker and the Clerk of the National Assembly for the logistical support accorded to it to undertake the conference.

On behalf of the Departmental Committee on Energy and pursuant to provisions of Standing orders
199

HON. DAVID GIKARIA, MP

CHAIRPERSON, DEPARTMENTAL COMMITTEE ON ENERGY

EXECUTIVE SUMMARY

The Departmental Committee on Energy was invited by the Cabinet Secretary, Ministry of Energy to attend the 63rd IAEA General Conference 2019 as a stakeholder and to inform it towards its oversight role of the Ministry of Energy. This is in particular as the Committee proceeds with the Nuclear Regulatory Bill, 2019.

The Conference attracted high-ranking officials and representatives from IAEA Member States. The following members of the Committee and accompanying staff comprised the delegation that attended the conference:

1. Hon. Eng. Vincent Musyoka Musau, MP- Leader of Delegation
2. Hon. Elsie Busihile Muhanda, MP
3. Hon. Julius Musili Mawathe, MP
4. Hon. John Walter Owino, MP
5. Hon. Richard Chonga Kiti, MP
6. Ms. Rose M. Wanjohi, First Clerk Assistant- Delegation Secretary

The 63rd IAEA General Conference 2019 focused largely on the development and utilization of nuclear technology in realizing the United Nations Sustainable Development Goals with particular emphasis on energy and health care. Generally, the conference presented progress in development and utilization of nuclear technology in the higher income economies of the world. Equally revealed were considerable achievements in some middle income economies with glaring gaps in majority of the low and middle income economies.

It is therefore imperative that, efforts need to be made if the 21st century generation of humanity is to experience significant equality that is to be gotten through utilization of nuclear technology. In particular Africa must re-dedicate her efforts if she wishes to join in the League of Nations whose citizens are reaping the benefits of nuclear technology. Suffice to say, Africa possesses unparalleled resources for development of nuclear technology.

During the General Conference (GC), Kenya renewed her commitment covering the assistance of IAEA in application of nuclear science in various sectors especially on Kenya's nuclear power programme in terms of trainings, fellowships, scientific visits, expert missions and assistance in review of various documents for the nuclear power programme

The IAEA GC paid a specific emphasis on the youth and the young professionals to explore the potential contribution of young generation networks in nuclear majorly in African member states to achieve the socioeconomic development in nuclear achieve science and allied fields, youth

engagement opportunities and challenges young people face in embracing the careers and employment in nuclear related field.

The Committee observed that Kenya is a leading proponent of green energy with over 70 % of the electricity generated and added to the National grid from hydro, wind and solar. Nuclear energy is a form of green energy and does not use fossil fuels which are contributing to climate change. Nuclear technology is being emphasized to play a significant role in the timely diagnosis and effective treatment of cancer. Kenya needs to increase her human capital for nuclear science and technology to be able to manage the increasing needs and infrastructure that uses nuclear science and technology in Human health, Agriculture, water resource management and industry.

The Committee recommends that Nuclear energy for electricity generation is a priority in the long-term to be included in the energy mix conscious of the fact that nuclear power is low carbon energy source. It does contribute to the mitigation of the impact of climate change and the achievement of SDGs.

The Country assents to the international Treaties and Conventions on nuclear safety and security including expressing political support to the code of conduct for safety and security for radioactive sources. The Country calls for national research proposals in support of at least four multidisciplinary-multi institution projects focusing on cancer control and food security based on Nuclear Technology.

The International Atomic Energy Agency (the Agency) to successfully conclude the ongoing collaborative work in equipping Moi Teaching & Referral Hospital (MTRH). In an effort to take care of the access to the cancer treatment services, the Government to embark on establishing more cancer centers. Finally, in order to build adequate human resource capacity, the Country collaborates with the Agency, to establish local training programmes and centres for relevant health professionals.

1.0 PREFACE

1.1 ESTABLISHMENT AND MANDATE OF THE COMMITTEE

The Departmental Committee on Energy is one of the fifteen Departmental Committees of the National Assembly established under *Standing Order 216* whose mandates pursuant to the *Standing Order 216 (5)* are as follows:

To investigate, inquire into, and report on all matters relating to the mandate, management, activities, administration, operations and estimates of the assigned ministries and departments;

- (i) To study the programme and policy objectives of Ministries and departments and the effectiveness of their implementation;
- (ii) To study and review all the legislation referred to it;
- (iii) To study, access and analyze the relative success of the Ministries and departments as measured by the results obtained as compared with their stated objectives;
- (iv) To investigate and inquire into all matters relating to the assigned Ministries and departments as they may deem necessary, and as may be referred to them by the House;
- (v) To vet and report on all appointments where the Constitution or any law requires the National Assembly to approve, except those under Standing Order No.204 (Committee on appointments);
- (vi) To examine treaties, agreements and conventions;
- (vii) To make reports and recommendations to the House as often as possible, including recommendation of proposed legislation;
- (viii) To consider reports of Commissions and Independent Offices submitted to the House pursuant to the provisions of Article 254 of the Constitution; and
- (ix) To examine any questions raised by Members on a matter within its mandate.

1.2 OVERSIGHT

The Second Schedule to the Standing Orders mandates the Committee to consider matters relating to the Fossils fuels exploration, Development, production, maintenance and regulation of energy. In executing its mandate, the Committee oversights the performance of the following State departments:-

- (i) Energy, and
- (ii) Petroleum.

1.3 COMMITTEE MEMBERSHIP

The Committee comprises the following Members-

Chairperson

The Hon. David Gikaria, M.P.
Nakuru Town East Constituency

Jubilee Party

Vice Chairperson

The Hon. (Dr.) Robert Pukose, M.P.
Endebess Constituency

Jubilee Party

The Hon. Cecily Mbarire, M.P.
Nominated Member

Jubilee Party

The Hon. Ekomwa Lomenen James, M.P.
Turkana South Constituency

Jubilee Party

The Hon. Joseph Wathigo Manje, M.P.
Kajiado North Constituency

Jubilee Party

The Hon. Lemanken Aramat, M.P.
Narok East Constituency

Jubilee Party

The Hon. Oscar Sudi Kipchumba, M.P.
Kapseret Constituency

Jubilee Party

The Hon. (Eng.) Vincent Musyoka, M.P.
Mwala Constituency

Maendeleo Chap Chap Party

The Hon. Amina Gedow Hassan, M.P.
Mandera Women Representative

Economic Freedom Party

The Hon. Osman A. Mohamed, M.P.
Fafi Constituency

Kenya Africa National Union

The Hon. Clement Muturi Kigano, M.P.
Kangema Constituency

Jubilee Party

The Hon. Elisha Odhiambo, MP
Gem Constituency

Orange Democratic Movement

The Hon. Elsie Muhanda, MP
Kakamega Women Representative

Orange Democratic Party

The Hon. Faith Wairimu Gitau, M.P.
Nyandarua Women Representative

Jubilee Party

The Hon. Julius Musili Mawathe, MP
Embakasi South Constituency

Wiper Democratic Movement-Kenya

The Hon. Ken Chonga, MP
Kilifi South Constituency

Orange Democratic Movement

The Hon Nicholas Tindi Mwale, MP
Butere Constituency
Jubilee Party

The Hon. Walter Owino, MP
Awendo Constituency
Orange Democratic Movement

The Hon. Mohammed Ali Lokiro, MP
Turkana East Constituency
Orange Democratic Movement

1.4 COMMITTEE SECRETARIAT

The Committee is resourced with the following technical staff, representing the Office of the Clerk;

Ms. Rose Wanjohi
Clerk Assistant I

Mr Douglas Katho
Clerk Assistant II

Mr Ronald Walala
Legal Counsel I

Mr Abdirahman Gorod
Fiscal Analyst II

Mr David Ngeno
Research Officer III

Ms. Deborah Mpusi
Media Relations Officer

1.5 ACKNOWLEDGMENT

The Committee appreciates the assistance provided by the Office of the Speaker and the Clerk of the National Assembly that enabled it to discharge its functions in considering the Petition.

On behalf of the Committee, and pursuant to Standing Order, 227 it is my duty to table on the Floor of the House the Report of the Committee on the Petition.

SIGN: _____

DATE: _____

HON. DAVID GIKARIA, MP

CHAIRPERSON, DEPARTMENTAL COMMITTEE ON ENERGY

2.0 INTRODUCTION

1. The Sixty-Third Annual Regular Session of the International Atomic Energy Agency (IAEA) took place at the United Nations Headquarters in Vienna from the 16th to 20th September 2019. This year's session showcased the dual role of the Agency which is to use Atoms for Peace and Development. The Agency by verifying nuclear material contributes to international peace and security as well as improving the well-being and prosperity of people through peaceful use of nuclear technology.
2. Nuclear technology plays a significant role in the timely diagnosis and effective treatment of cancer. This year's scientific forum was themed "A Decade of Action on Cancer Control and the Way Forward" as a clear indication of Agency's endeavors of helping countries to tackle the cancer burden. The role of Youth and Women was given priority in ensuring inclusivity and gender parity is met at the professional level and above.
3. The main objective of Kenya's attendance of the conference was to reaffirm Kenya's Commitment to the IAEA in the promotion of peaceful uses of Nuclear Science and Technology.
4. The 63rd IAEA General Conference 2019 focused largely on the development and utilization of nuclear technology in realizing the United Nations Sustainable Development Goals with particular emphasis on energy and health care. Generally, the conference presented unprecedented progress in development and utilization of nuclear technology in the higher income economies of the world. Equally revealed were considerable achievements in some middle income economies with glaring gaps in majority of the low and middle income economies.
5. It is therefore imperative that, efforts need to be made if the 21st century generation of humanity is to experience significant equality that is to be gotten through utilization of nuclear technology. In particular Africa must re-dedicate her efforts if she wishes to join in the League of Nations whose citizens are reaping the benefits of nuclear technology. Suffice to say, Africa possesses unparalleled resources for development of nuclear technology.
6. During the GC, Kenya renewed her commitment covering the assistance of IAEA in application of nuclear science in various sectors especially on Kenya's nuclear power programme in terms of trainings, fellowships, scientific visits, expert missions and assistance in review of various documents for the nuclear power programme
7. The IAEA GC paid a specific emphasis on the youth and the young professionals to explore the potential contribution of young generation networks in nuclear majorly in African member states to achieve the socioeconomic development in nuclear achieve science and allied fields, youth engagement opportunities and challenges young people face in embracing the careers and employment in nuclear related field.
8. The panel discussed how the youth skills and knowledge can be fully exploited to reap the benefits of nuclear science and technology applications. This geared toward a structured communication among the young generations to ensure dissemination of information regarding

nuclear opportunities for their engagement and involvement in Nuclear Science and Technology .

9. The IAEA Technical Cooperation Programme is a key mechanism for helping Member States to make optimal use of peaceful nuclear science and technology.

2.1 Human Resources Development (HRD)

10. The Agency has various vacancies and internship opportunities that Member States are eligible to apply. The delegates should encourage the Kenya youth and the qualified experts to register for the IAEA employment platform the TALEO and apply for these opportunities.
11. Kenya needs to increase her human resources for nuclear science and technology to be able to safely manage the growing and expanding centers that uses nuclear science and technology in Human Health, Agriculture, Water Resources Management and Industry.
12. The National Human Resources Needs Assessment and a Database of the Nuclear Science and Technology experts available in the country needs to be undertaken so as to pinpoint the areas of urgent and critical HRD.
13. To tackle the HRD needs it is important that the Country sets up national institutions to be Regional Designated Centre for training in Nuclear Sciences and Technology in Human Health, Agriculture and Livestock, Water Resources Management, Industry –Non-Destructive Test (NDT) and Nuclear Power.

2.2 SIDE EVENTS DURING THE GENERAL CONFERENCE

OBSERVATION	RECOMMENDATIONS	CONCLUSION
<p>14. Illuminating the Hope for Life - the Application of Nuclear Technology in Diagnosis and Treatment of Cancer Worldwide</p>	<ul style="list-style-type: none"> China National Nuclear Cooperation (CNNC) invited interested collaborators, in sharing Nuclear medicine advances and Kenya should take up opportunities. CNNC demonstrated an innovative and proven methods utilized in Nuclear medicine from the lab to the patient which we should also emulate. 	<ul style="list-style-type: none"> Kenya needs to have precision oncology utilizing modern equipment like PET, PET/ CT, SPECT and SPECT/CT. Strategy for development of nuclear medicine ought to factor products like I-131, F-18, Ga-68/Lu-177, Pd-103, Cu-64 and Zr-89 National census data on status of radionuclide consumption should be published periodically leading to development of radionuclide therapeutic drugs.
<p>15. Tour of the Exhibition Booths</p>	<ul style="list-style-type: none"> The Country should therefore aim to showcase the work done during the next General Conference 	<ul style="list-style-type: none"> Kenya has made great progress in the peaceful applications of nuclear science and technology since becoming a member state of the IAEA in 1965.
<p>16. Scientific Forum – A decade of action on cancer control and way forward</p>	<ul style="list-style-type: none"> The rising cases of cancer in the country have been noted with concern. Management of cancer in the country needs to be given high priority. 	<ul style="list-style-type: none"> The IAEA to support the application of nuclear technology to the management of cancer and training of nuclear medicine experts in the country
<p>17. The NICE future Initiative Year 2: The flexible nuclear campaign and the role of nuclear in future clean energy systems.</p>	<ul style="list-style-type: none"> Exploring innovative applications for advanced nuclear systems both electrical and non-electrical. Engaging policy makers and stakeholders regarding energy sources for the future Pooling experience on economics, including valuation, market structures and ability to finance. 	<ul style="list-style-type: none"> That nuclear power has many peaceful uses for instance electricity and power generation, cancer treatment, besides the building of weapons. That Nuclear energy is a form of green energy and it can be useful to reduce carbon emissions from

OBSERVATION	RECOMMENDATIONS	CONCLUSION
	<ul style="list-style-type: none"> Communicating nuclear energy's role in clean integrated energy systems and developing the nuclear workforce of the future. Countries need to build public trust in the safety and security of nuclear power in light of several nuclear disaster. The public need to know that nuclear is safe with the necessary safety protocols and policies adhered to. There is need to reduce the cost of installation and maintenance of nuclear power plants by encouraging the development and use of small modular power plants; Inclusivity of women and Youth in the nuclear science professionals should be encouraged; Training of nuclear professionals and inclusion of nuclear science in schools and universities curriculum is a matter of urgency if we are to continue to have generations in nuclear professions; 	<p>reliance of fossil fuel and therefore go a long way in reducing climate changes;</p> <ul style="list-style-type: none"> Green energy using the traditional sources of water, wind and hydro may not be sustainable in the future due to the increasing demands both from domestic and industrial users, therefore nuclear power can be a solution as an additional source of green energy. The world bank need to change its discriminatory policy on not funding nuclear power plant installations, in order to encourage emerging countries who may not have the financial capacity to do so on their own to seek funding from the World Bank
<p>18. Professional and Community Event presented experience in developing professional, youth and student communities to participate in Nuclear project</p>	<ul style="list-style-type: none"> The role of mentors and Tutors in educating the new generation of scientists and engineers should be enhanced and documented. The contribution of private and public entities to human resource development through early career guidance should be acknowledged. Attachment and internship of young people, and especially women scientist and engineers should be scrutinized 	<ul style="list-style-type: none"> Lack of HRD plan shared by all Stakeholders led by RPB, NuPEA, KeBS, KALRO, KIRDI, KEMRI, NRF, NACOSTI etc. needs to be addressed as a priority. The census of interns and attaches in all the above institutions should be periodically published. Outreach activities to secondary schools and tertiary institutions should be enhanced.

OBSERVATION	RECOMMENDATIONS	CONCLUSION
<p>19. Youth in Nuclear Session</p>	<ul style="list-style-type: none"> Local Universities need to be supported to form their respective chapters for the youth in nuclear. National Nuclear Institutions need to support the Young Generation in Nuclear in all fronts 	<ul style="list-style-type: none"> It is very strategic to involve the youth in our nuclear programs. The IAEA supports the engagement of the youth in nuclear programs. Kenya already has a chapter in the African Young Generation in Nuclear (AYGN) – Kenya Young Generation in Nuclear (KYGN).
<p>20. The Nuclear Knowledge Management (NKM) session</p>	<ul style="list-style-type: none"> Kenya needs to request for such assistance and develop a NKM strategies. 	<ul style="list-style-type: none"> The management of knowledge is important for the sustainability of any program. The IAEA assists Member States to carry out NKM initiatives.
<p>21. Light the way forward : Advanced Light Sources for Peace and Development</p>	<ul style="list-style-type: none"> The broad utility and how light sources foster cooperation between MS should exploited, since Africa is only continent without a light source Kenya should join Ghana and Rwanda who are spearheading African light source. Advanced sources of light (like lasers and synchrotrons) have become prime factors in promoting scientific and technological progress, and Kenya needs to keep abreast with the developments occurring elsewhere. 	<ul style="list-style-type: none"> Light sources are among the most important facilities available for inter-disciplinary research and Innovation.
<p>22. US leadership and experience in the development of advanced reactor technologies</p>	<ul style="list-style-type: none"> Kenya should use similar approaches to set up the appropriate curriculums. Kenya and the African region to adopt this approach in nuclear training. This is not only a cost effective way of training but it also ensures that our training programs meet the required standards. 	<ul style="list-style-type: none"> The US has adopted an approach for common curricula in training of nuclear experts in their local Universities.

OBSERVATION	RECOMMENDATIONS	CONCLUSION
<p>23. Meeting with IAEA PMO, Technical Officer for Dosimetry and NDT</p>	<ul style="list-style-type: none"> IAEA to procure and install Cobalt - 60 calibration system through Dosimetry Project Personnel monitoring equipment to procurement through NDT Project Most Kenyan technicians have expired NDT certificates. IAEA to carry out group training and certification. 	<ul style="list-style-type: none"> The Country to establish national radiation monitoring services, at KeBS The Country establishes a national radiochemistry testing
<p>24. Preparing Future generations to support nuclear power generation using operation experience and lessons learned from operating nuclear power programmes: the veterans' perspective.</p>	<ul style="list-style-type: none"> Development of knowledge management systems to preserve critical information and experience for future generations. The continuous enhancement of the 10 basic principles of global technology culture required for safe, reliable and effective operation of nuclear facilities which makes it acceptable to the public and friendly to the environment, by including safety culture, nuclear culture and ecology culture among others. 	<ul style="list-style-type: none"> Veterans to pass their knowledge to the next generations to avoid a situation where they build nuclear power plants but are unable to upgrade because there are no upcoming professionals Veterans can explain the benefits of nuclear energy including the issues and problems associated with which they can deliver objectively.
<p>25. Tour of the IAEA Radiation Safety Technical laboratory services.</p>	<ul style="list-style-type: none"> The National NDT and Dosimetry(measurement of ionizing radiation in a given place or on a person) laboratories should be encouraged to achieve status of Regional Designated Centres (RDC) 	<ul style="list-style-type: none">
<p>26. Spotlight on Emerging and Expanding Nuclear Countries organized by Brazil and World Nuclear Association.</p>	<ul style="list-style-type: none"> Kenya to invite World Nuclear Association to have a spotlight Africa event Need for Kenya to collaborate with emerging countries (United Arab Emirates, turkey, Belarus, Bangladesh, Ghana) and expanding countries (Brazil, Argentina, China) 	<ul style="list-style-type: none"> Kenya to contribute its shares of the planned 25% of clean and reliable low carbon mix energy using Nuclear power. Have nuclear regulatory regime, independent of the Nuclear promotion agencies

OBSERVATION	RECOMMENDATIONS	CONCLUSION
	<ul style="list-style-type: none"> Human resource development for effective, negotiation with vendor countries 	<ul style="list-style-type: none"> Promote synergies between Government and NGO and professional association for increase public acceptance.
27. Tour of IAEA Analytical laboratories at Seibersdorf	<ul style="list-style-type: none"> National Research Fund (NRF) should fund joint usage of analytical laboratories Equipment like mass spectrometer, particle accelerator and other dual (chemistry, physics, biology, geology) use equipment should be acquired. Joint (universities and government agencies) research projects should be encouraged 	<ul style="list-style-type: none"> Sharing of how analysis of environmental samples are done and publications would result in complete mapping of Kenya geological status Mineral exploration, followed by mining activities would uplift and diversify sources of income Inter-cooperation of Government ministries
28. Tour of IAEA Nuclear Application Laboratories	<ul style="list-style-type: none"> Establishing instrumentation and maintenance laboratories to ensure effective operation of radiation equipment Establishment of National Personnel monitoring for occupational workers and providing the dose records to the radiation protection Board who should publish periodic reports of exposure of workers. 	<ul style="list-style-type: none"> Use of radio- Isotope for fighting goods (food) counterfeit Students (KMTC, Universities, INST) in Kenya are not provided with personal dosimetry monitoring devices. Periodic calibration of medical and industrial equipment should be mandatory especially after maintenance (routine, repair)
29. Attended African Regional Co-operative Agreement for Research, Development and Training Related to Nuclear Science and Technology (AFRA)	<ul style="list-style-type: none"> Human capacity building and involvement of women and professional registering TALEO Endorsement of resolutions from technical working group meeting, Conduct assessment of the impact of AFRA on Social Economic development of members state 	<ul style="list-style-type: none"> More coordination meetings, workshops and seminars should be held in Africa member states Impactful regional designated centers will promote self-reliance and sustainability Nuclear research and collaboration with national, regional and international institutions like AFCONE, AU.

3.3 Bilateral Meetings

30. During the Bilateral meetings with the IAEA, the implementation of the national programmes is progressing well though a further increase rate of absorption of the allocated funds needs to be accelerated. For the new projects, the counterpart's institutions ought to pay the National Participation Costs (NPC) well in advance (October 2019) so that the projects can start in January 2020. On the same note all the fellowships and scientific visits should be submitted by 30th November 2019 for implementation in 2020.
31. During the 63rd General conference the following achievements were realized from the various bilateral meetings:
 - i. Signing of the Internet Reactor Laboratory for training and teaching of Kenyans students in nuclear field.
 - ii. Training opportunities for the Kenyans in the field of nuclear medicine and cancer management
 - iii. The opportunity to further push and realize the Peaceful Uses Initiative from the US
 - iv. The support from the IAEA through the Technical Cooperation and Nuclear Infrastructure Development Section (NIDS) to the nuclear power programme and nuclear science and technology.

3.4 Kenya's Presentation During the 63rd General Conference

32. During the 63rd GC, several Kenyan delegates were in panel discussions as panelists and made presentations on various topics.
 - i. At the scientific forum, Ms. Catherine Nyongesa, Chief Oncologist presented on "Kenya's experience in setting up comprehensive cancer control"
 - ii. The CEO of NuPEA Eng. Collins Juma, MBS was a panelist on the NICE initiative and also at the IFNEC side event.
 - iii. At the side event of the World Nuclear Association Dr. David Otwoma gave a presentation on Human Resource Development to support NPP.
 - iv. For the youth in nuclear side event, Mr. Rafael Chesori was a panelist at the side event underscored the need to involve the young generation in matters nuclear science and technology
 - v. The CEO of RPB Mr. Joseph Maina also gave a presentation on EU CBRN CoE initiative on the progress of the establishment of the CoE in the Eastern and Southern Africa region.
33. The NLO has played a crucial role in coordinating the IAEA activities. The need for further engagement and reaping maximum benefit on peaceful application of nuclear science and technology is imperative.
34. Nuclear power makes a significant contribution to reducing greenhouse gas emissions worldwide, while at the same time fulfilling the increasing energy demands of a growing world population and supporting global sustainable development.

35. Kenya reaffirms its support to the Agency's activities and thanks the Agency for the invaluable contribution towards expanding and promoting peaceful uses of nuclear science and technology for development.
36. It is important that the benefits and importance of the Nuclear Science and Technology be communicated to all including the policy and decision makers so that the conversation on Nuclear Science be given the priority it deserves. We need to tell our Story.

3.0 DELEGATION'S OBSERVATIONS

The Committee observed that:-

- i. Kenya is a leading proponent of green energy with over 70 % of the electricity generated and added to the National grid from hydro, wind and solar.
- ii. Nuclear energy is a form of green energy and does not use fossil fuels which are contributing to climate change.
- iii. Nuclear technology is being emphasized to play a significant role in the timely diagnosis and effective treatment of cancer.
- iv. Kenya needs to increase her human capital for nuclear science and technology to be able to manage the increasing needs and infrastructure that uses nuclear science and technology in Human health, Agriculture, water resource management and industry.

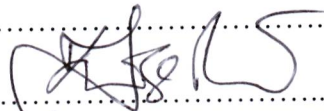
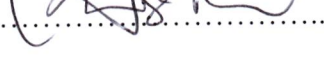
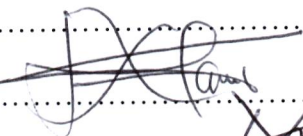

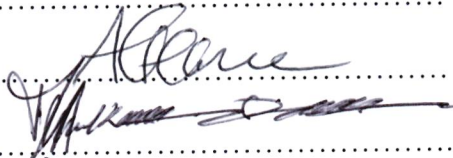
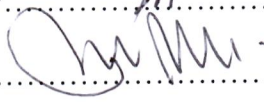


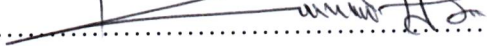


5.0 DELEGATION'S RECOMMENDATIONS

The Delegation after deliberations recommends that:-

- 1. Nuclear energy for electricity generation is a priority in the long-term to be included in the energy mix conscious of the fact that nuclear power is low carbon energy source. It does contribute to the mitigation of the impact of climate change and the achievement of SDGs.**
- 2. The Country assents to the international Treaties and Conventions on nuclear safety and security including expressing political support to the code of conduct for safety and security for radioactive sources.**
- 3. The Country calls for national research proposals in support of at least four multidisciplinary-multi institution projects focusing on cancer control and food security based on Nuclear Technology.**
- 4. The International Atomic Energy Agency (the Agency) to successfully conclude the ongoing collaborative work in equipping Moi Teaching & Referral Hospital (MTRH).**
- 5. In an effort to take care of the access to the cancer treatment services, the Government to embark on establishing more cancer centers.**
- 6. In order to build adequate human resource capacity, the Country collaborates with the Agency, to establish local training programmes and centres for relevant health professionals.**

ADOPTION LIST

WE, THE MEMBERS OF THE DEPARTMENTAL COMMITTEE ON ENERGY, HAVE PURSUANT TO STANDING ORDER 199, ADOPTED THIS REPORT ON THE INTERNATIONAL ATOMIC ENERGY AGENCY (IAEA) 63RD GENERAL CONFERENCE HELD FROM 16TH TO 20TH SEPTEMBER, 2019, VIENNA, AUSTRIA AND AFFIRM OUR APPROVAL AND CONFIRM ITS ACCURACY, VALIDITY AND AUTHENTICITY TODAY 9/10 OCTOBER 2019:

1. The Hon. David Gikaria, MP. Chairperson..... 
2. The Hon. (Dr) Robert Pukose, MP - Vice Chairperson 
3. Hon. Cecily Mbarire, MP.....
4. Hon. Ekwoma Lomenen James, MP..... 
5. Hon. Joseph Waithigo Manje, MP..... 
6. Hon. Lemanken Aramat, MP.....
7. Hon. Oscar Sudi Kipchumba, M.....
8. Hon. (Eng.) Vincent Musyoka Musau, MP.....
9. Hon. Amina Gedow Hassan, MP..... 
10. Hon. Abdikahim Osman Mohamed, MP.....
11. Hon. Clement Muturi Kigano, MP..... 
12. Hon. Elisha Odhiambo, MP
13. Hon. Elsie Muhanda, MP..... 
14. Hon. Gitau Faith Wairimu, MP.....
15. Hon. Julius Musili Mawathe, MP..... 
16. Hon. Ken Chonga, MP..... 
17. Hon. Mohamed Ali Lokiro, MP.....
18. Hon. Tindi Nicholas Mwale, MP..... 
19. Hon. Walter Owino, MP..... 

MINUTES

