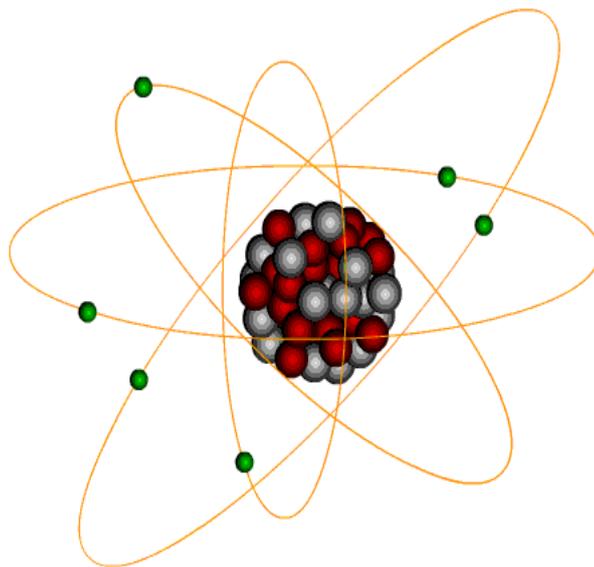


**ANNUAL REPORT- 2014**

**ATOMIC ENERGY AUTHORITY**



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# ANNUAL REPORT- 2014

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# **ABOUT US**

The Atomic Energy Authority (AEA) of Sri Lanka was established by the Atomic Energy Authority Act No.19 of 1969.

## **VISION**

The vision of the AEA is, to be a centre of excellence, with emphasis on national relevance and international recognition, for activities related to peaceful applications of nuclear technology with due consideration to safety.

## **MISSION**

- Facilitation of the utilization of nuclear technology to its maximum potential with reference to quality and quantity in a cost effective manner, for socio-economic development of the country; and
- Implementation of a regulatory program conforming to international standards on radiation safety, to ensure protection of workers, public and the environment from potentially harmful effects of ionizing radiation.

## BOARD OF MANAGEMENT

The AEA is managed by a Board of Management appointed in terms of Section 2 (2) of the Atomic Energy Authority Act No. 19 of 1969. The Members of the Board of Management from January to December 2013 were:

Dr. Ranjith L. Wijayawardana (Chairman)  
BSc. (Hons) in Physics- 1<sup>st</sup> Class, M.Sc. in Physics, PhD in Experimental High Energy Physics (USA)  
(Senior Lecturer, Department of Physics, University of Peradeniya)

Prof. W. Abeyewickreme (Board Member)  
BSc. in Applied Science, SJP, BSc. (Mahidol University, Bangkok), PhD (Liverpool University, England)  
(Head, Department of Parasitology, Faculty of Medicine, University of Kelaniya)

Prof. B.M.A. Oswin Perera (Board Member)  
BVSc. (Ceylon), PhD (Glasgow)  
Retired Professor

Mr. P.P. Gunasena (Board Member)  
Attorney at Law  
(Chairman, Sri Lanka Accreditation Board)

Dr. N.J. Abeygunawardena (Board Member)  
MBBS, MD (Radiology)  
Consultant Radiologist

Prof. Janitha Abeywickrema Liyanage (Board Member)  
BSc. Sp. Hons, PhD in Chemistry, Professor in Chemistry  
Prof. in Chemistry, Department of Chemistry, University of Kelaniya  
Director – Gampaha Wickramarachchi Ayurveda Institute.

Mr. K.R. Uduwawala (Board Member- Treasury Representative) up to June 2014  
BSc. (sp). (Physics), Master of Organizational Leadership (Monash University)  
Additional Director General, Dept. of Management Services, Government Treasury, Ministry of Finance and Planning

Mrs. M.K. Sithara Jayasena (Board Member - Treasury Representative) From July 2014  
BSc.(Sp.) Marketing Management, MSc, Public Management, International University of Japan  
PG. Dip. Development Management & Public Policies (OUSL)  
Director, Department of Management Services, Government Treasury, Ministry of Finance and Planning

Mr. D.G.L. Wickremanayake (Non Voting Board Member)  
B.Sc. (Sp. Physics), M.Sc.(NDT) (University of Colombo), M.Sc. (Nuclear Science) (United Kingdom)  
Director General – (Atomic Energy Authority)

During the period under review there were 13 Board meetings regarding the matters pertaining to operational activities, staff issues, finance and administration issues etc. All these matters were presented to the Board of Management for policy decisions. The Board reviewed the physical and financial progress of the Authority.

## Senior Management

NAME	TITLE	QUALIFICATION
Mr. D.G.L. Wickramanayake	Director General	B.Sc., M.Sc. (Colombo) M.Sc. (UK)
Mr. H.G.P. Karunaratne (Retired on 29.05.2014)	Director, International and Human Resources Division	B.Ed. Colombo DBM (NIBM) (Special)
Mr. C. Kasige	Director, General Scientific Division	B.Sc. (Peradeniya) M.Sc. (Colombo)
Mr. H.L. Anil Ranjith	Director, Radiation Protection Division	B.Sc., M.Sc. (Colombo)
Mr. M.M.P. Wijesekera	Acting Senior Deputy Director, Finance & Administration	Licentiate Certificate of ICASL, DBM (NIBM)
Mr. Vajira Waduge	Director, Life Science Division	B.Sc.(Peradeniya) M.Sc.(Colombo)
Mrs. S.S. Kulathunga	Director, Multipurpose Gamma Irradiation Facility	B.Sc.(Colombo) M.Sc.(Colombo)
Mr. T.M.R.Tennakoon	Director, National Centre for NDT	B.Sc.(Colombo) M.Sc.(Colombo)
Ms. M.C.S.Seneviratne	Former Head Life Science Division	B.Sc (Sri Jayawardenepura), M.Sc. (Colombo)

## Chairman's Review

It is a great pleasure and privilege for me to present the Annual Report of the Atomic Energy Authority (AEA) of the year 2014. The Atomic Energy Authority continued carrying out its work to meet its goals of providing benefits to Sri Lankan community using nuclear technology as in the previous years.

The new Atomic Energy Act No. 40 of 2014 was approved by the Parliament of Democratic Socialist Republic of Sri Lanka on 04<sup>th</sup> November 2014. The new Act will establish two new independent entities as "Sri Lanka Atomic Energy Regulatory Council" (Council) and the "Sri Lanka Atomic Energy Board" (Board) which are to come into operation on 1<sup>st</sup> January 2015. Once these two entities are established the Council acts as the regulatory authority for ensuring radiation safety, nuclear security and safeguards, while the Board carries out development activities and services related to nuclear technology. The new Act repealed the Atomic Energy Authority Act No.19 of 1969 on 1<sup>st</sup> January 2015.

The activities of the AEA during the year 2014 are reported under the following areas:

- (a) Radiation Protection,
- (b) Programs of the International Atomic Energy Agency (IAEA),
- (c) Nuclear Instrumentation,
- (d) Secondary Standard Dosimetry
- (e) Occupational Exposure Measurement

- (f) Non-Destructive Testing,
- (g) Radiation Processing
- (h) Nuclear Analytical Services,
- (i) Isotope Hydrology
- (j) Information Services and
- (k) Manpower Development

The AEA provides radiation protection services to the Government and private sector organizations to achieve safety norms by performing regular inspections of premises that use radiation sources and radioisotopes. The users who possess radioisotopes or irradiation apparatus (including medical X-rays) need to obtain a licence from AEA and 300 such licences were issued in 2014. Import/ export of radioactive materials have to be carried out with the approval of AEA and 501 such authorizations were issued in 2014. Inspection of premises that use radiation and radioactive materials is also a responsibility of the AEA and a number of such inspections carried out were 125. In addition 52 approvals were provided for irradiation room plans after they complied with the recommendations given by the AEA.

AEA was able to establish protection level dosimetry standards and diagnostic dosimetry standards (ISO 4037) to provide calibration services needed to facilitate radiation safety programm in the country.

Personal Monitoring is one of the important service provided by AEA to facilitate to radiation protection of workers in the country. Quality Management System ISO / IEC 17025:2005 for personal monitoring services laboratory received from Sri Lanka Accreditation board in June 2014. Accreditation provides additional International recognition to the services of the laboratories.

The Non Destructive Testing (NDT) Section has provided 160 NDT inspection services to industry to ensure industrial safety and improve industrial productivity. 266 personnel were trained in NDT. The project to establish a separate centre for Non Destructive Testing (NDT) was launched in 2011. The Centre was declared open on 14<sup>th</sup> October 2014.

The Life Sciences Division is responsible for promoting nuclear analytical capabilities in the Atomic Energy Authority and provides analytical services to meet the national needs. The number of imported and exported food samples analyzed for radioactivity was 7369 in 2014.

Sri Lanka Gamma Centre (SLGC) was established at Biyagama Export Processing Zone in the purpose of providing services for industry in order to add values to their products which lead to increase earning of foreign exchange. Commercial operation of the SLGC was started on 02<sup>nd</sup> January 2014 as their extended trials. However the SLGC was officially opened on 17<sup>th</sup> February 2014.

Manpower development is an essential component to promote nuclear science & technology in the country. International cooperation received for HR development in the field of nuclear science and technology. There were 17 expert services, 12 fellowships, & scientific visits and 161 participants participated in short term overseas training courses, workshops, meetings and seminars organized under the International Atomic Energy Agency Technical Cooperation Programme. In-house human resource development was also promoted for administrative and supportive staff of AEA.

All these achievements recorded in 2014 due to the effort of hard working of staff of the institute and cooperation received from the management.

Nuclear Technology is well recognized in the world and I would like to take this opportunity to thank those who are contributed to these achievements.

## **Financial Highlights**

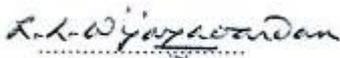
### **Income Earned from the external customer services provided in 2013 & 2014** (Values in Rs. mn.)

<b>Income Source</b>	<b>2014</b>	<b>2013</b>
01 Sri Lanka Gamma Centre	44.01	----
02 License Fees	4.10	3.83
03 Radiation Protection Services	2.32	4.55
04 Nuclear Instrumentation/Personal Monitoring	1.64	1.71
05 Non Destructive Testing Inspections	5.86	4.88
06 NDT Training Courses	4.70	3.07
07 Nuclear Analytical Services	37.70	35.30
08 Radiation Processing Services	----	0.11
09 Isotope Hydrology Section	0.61	0.86
<b>Total</b>	<b>100.94</b>	<b>54.31</b>

Total income had been increased by 85% in 2014 when compare to the previous year mainly due to the generated income from the Sri Lanka Gamma Centre (SLGC).

We hope to focus our attention for new income generating activities such as concrete testing, welder qualifications, boiler inspections and new training courses to overcome the above situation.

I wish to thank the Members of the Board, Senior Management and the all staff members of the AEA for their contribution in order to carry out the above programs successful manner even in the competitive market environment.



Dr. R.L. Wijayawardana  
Chairman

# 1. Audit and Management Committee Reviews 2014

The Audit and Management Committee is constituted in accordance with PED Circular No.55 dated 14.12.2010 issued by the Department of Public Enterprises of the Ministry of Finance and Planning.

The Audit and Management Committee of the Atomic Energy Authority for the year 2014 consisted with the following members.

- a) Mr. K.R. Uduwawala. (Treasury Representative) - Chairman of the Audit and Management Committee. (Up to June 2014)
- b) Mrs. M.K. Sithara Jayasena. (Treasury Representative) - Chairman of the Audit and Management Committee. (From July 2014)
- c) Prof. J. Abeywickrema Liyanage - Committee Member
- d) Dr. N.J. Abeygunawardena - Committee Member
- e) Mr. P.P. Gunesena - Committee Member

Above five members are Members of the Board of Directors of Atomic Energy Authority and possess a wide range of experience in scientific, finance, administration and legal fields.

Internal Auditor acts as the Secretary to the Audit and Management Committee. Mr. D.G.L Wickramanayake, Director General of the AEA also participated in Committee Meetings.

A representative of the Auditor General (Mr. A.L.J. Wimalarathne) and Chief Internal Auditor of the Ministry of Technology and Research also attended to the committee meetings as observers.

## Meeting of the Committee

The Committee fulfilled the requirements and the guidelines set out by the Department of Public Enterprises in conducting Audit and Management Committee meetings. Four meetings were held in the financial year 2014.

## Scope of the Committee

Having considered the objectives defined in the Public Enterprise Circular No. PED 55 dated 14.12.2010 and in the 'Guideline for Good Governance' of the Department of Public Enterprise, the Audit Committee made maximum effort to achieve the following objectives.

- a) To review the continuing impartiality of the internal auditors and their effectiveness.
- b) To address relevant issues concerning raised by the Internal Auditor according to the Internal Audit Plan on a regular basis.
- c) To assist the Board in the task of overseeing to ensure that financial reporting is done in compliance with relevant Sri Lanka Accounting and Auditing Standards and other applicable legal requirements.
- d) To assist the Board to ensure that all relevant rules and regulations and circulars issued by the government are complied with continuously reviewing and monitoring, making recommendations to the Board on non compliance.

- e) To review the Internal Audit/External Audit Reports, Management Letters and the recommendations of COPE, and help the Board to take remedial actions.
- f) To assist the Board to introduce and implement adequate internal control system.
- g) To report its recommendations to the Board of Directors soon thereafter the meeting, along with the minutes to facilitate taking corrective measures.

#### **Activities of the Committee during 2014**

1. The Audit Committee reviewed and approved the annual Internal Audit plans for the year 2014.
2. Audit Committee reviewed the progress of implementing Internal Audit Plan 2013 and implementation of recommendations of the committee meetings and instructed to internal auditor to check progress of the Divisions quarterly and report to the Audit and Management Committee. Further Committee recommended strengthening the Internal Audit Division of the Authority.
3. Audit Committee noted the replies which have been given for queries of the Auditor General's Report for the year 2012.
4. Committee noted deficiencies mentioned in the internal audit reports and recommended that manual of procedures should be prepared immediately, including all procedures implemented at present in the Authority. Committee instructed to expedite the installation of new computerized accounting system.
5. Audit Committee noted the EPF issue and COPE directions regarding this issue and recommended the Board of Management to pay arrears requesting necessary funds from the Treasury.

Chairman  
Audit and Management Committee.

## **2. Division of Radiation Protection and Regulations**

### **2.1. Development of Regulatory Infrastructure**

#### **2.1.1. New Act for Atomic Energy**

The new Atomic Energy Act was approved by the Parliament of Democratic Socialist Republic of Sri Lanka on 04<sup>th</sup> November 2014. The new Act titled as “Atomic Energy Act No. 40 of 2014” was published as Supplement to Part II of the Gazette of the Democratic Socialist Republic of Sri Lanka dated 07<sup>th</sup> November 2014. The new Act established two new independent entities as “Sri Lanka Atomic Energy Regulatory Council”(Council) and the “ Sri Lanka Atomic Energy Board” (Board) which came into operation on 1st January 2015. While the Council acts as the regulatory authority for ensuring radiation safety, nuclear security and safeguards, & the Board carries out development activities and services related to nuclear technology. The new Act repealed the Atomic Energy Authority Act No.19 of 1969 on 1st January 2015.

#### **2.1.2. Code of Practice on Industrial Radiography**

Approval of the AEA Board of management for the final version of the code of practice for the “Safe Use of Industrial Radiography Equipment was received. It is expected to distribute among license holders to strengthen the knowledge of regulatory requirements and individual safety of radiation workers.

#### **2.1.3. National Plan of Radiological Emergency Preparedness and Response**

Final draft of the “National Plan on Radiological Emergency Response and Planning” (Rad Plan) was prepared by the AEA incorporating comments of the stakeholders. The Plan is expected to submit to Disaster Management Centre to get the approval of the Disaster Management Council.

### **2.2. Regulatory Activities**

#### **2.2.1 Licensing and Inspections**

No. of inspections conducted	= 138
No. of licenses issued	= 300
No. of Import / Export authorizations issued	= 501
No of Irradiation rooms approved with recommendations	= 52

#### **2.2.2. Implementation of Nuclear Security Programme**

##### ***Securing Radiation sources***

- A planning meeting with stakeholders was held during 05-06 March 2014 to discuss presentations and practical exercises to be included in the Table Top Exercise (TTX) on “Radiological Security Incident Response Methodologies” that was to be held during 07-11 April 2014.

- A Table Top Exercise was conducted during 07-11 April 2014 at the Sri Lanka Gamma Centre (SLGC), Export Processing Zone, Malwana, Biyagama for Police, Special Task Force (STF) and the staff of facilities where physical protection was provided with the assistance of United State Global Threat Reduction Initiatives (US GTRI) project. 30 participants were attended for the table top exercise.
- A Table top Exercise was conducted during 04-08 August ,2014 at Ansell Lanka Ltd to assess the adequacy of security provided for the irradiator and to plan installation of additional physical protection equipment if needed from the results of the TTX. A training on Security Incident Response was also provided for STF, Police, Fire Officers at BOI, Biyagama, and technical staff of Ansell Lanka Limited and AEA during the TTX. 30 participants were attended for the exercise.
- Arrangements have been made with US GTRI to upgrade physical protection following irradiation facilities with three years maintenance programme at the Irradiator at Ansell Lanka Ltd, Biyagama. AEA Waste Storage Facility, Orugodawatta, Four no. of Radiotherapy facilities at Cancer Institute, Maharagama, A therapy facility at General hospital , Galle. Two no. of therapy facilities at General hospital, Kandy, A therapy facility at General Hospital, Badulla, A therapy facility at General Hospital, Anuradhapura, A therapy facility at District Hospital, Tellipalai, Jaffna, A Blood Irradiator at Asiri Surgical Hospital, Narahenpita. An Irradiator at SLGC, Biyagama and A self-shielded irradiator at Tissue Bank, Colombo 07.



Security inspections were conducted at Cancer Institute, Maharamaga, and General Hospital, Galle, with the participation of two member team from US DOE GTRI to assess the completeness of the installation of security equipment and to check whether the installations have been done as per the contract requirements.

*Fig.2.1: Table top exercise (TTX) conducted by US GTRI team at SLGC, Biyagama*

### ***Securing orphan sources***



Source search programmes were conducted in Regional Agricultural Research and Development Centres, at Bandarawela, Thirunelvely, Jaffna, Makandura, Bathalagoda; the Crop Research and Development institute at Angunukolapalessa, and Natural Resources Management Centre, Peradeniya. Six Radiation Moisture Gauges were found and securely stored at AEA Central Waste Storage Facility.

*Fig.2.2: Lorphan source found at the Regional Agriculture Research & Development Center, Makandura*

### *Security in transport of radiation sources*

- Arrangements have been made to provide security for the transport of high activity sources from Colombo Port to Biyagama Export Processing Zone, and vice versa and from Katunayake Airport to Jaffna and vice versa. Tracking devices provided by the US GTRI were also installed to track the path of the containers. A STF scot trained by US GTRI on security incident response was used to provide ground security during transportation.



*Fig.2.3: Conducting radiation survey of source container before transportation*

### **2.3 Activities carried out under the IAEA Integrated Nuclear Security Support Plan (INSSP)**

- A three year work plan to develop Nuclear Security in Sri Lanka was prepared in collaboration with the IAEA expert team. The work plan was approved by both AEA Board and the IAEA.
- An expert mission consisting four experts was carried out during 15-19 December, 2015 to make an assessment of security at boarder points in Sri Lanka. The team visited with AEA officers at three boarder points at Bandaranayake International Airport, Katunayake, Mattala Mahinda Rajapaksha International Airport and Seaport at Hambantota.

### **3. Training and Awareness Programmmes**

- Conducted a National Training Course on Radiation Protection and Quality Assurance in Diagnostic and Interventional Radiology for Radiographers working in Government hospitals during 25-28 November 2014. 33 participants were participated in the training.
- Conducted a National Training course on Radiation Protection in Radionuclide Therapy and Imaging for Technologists and Nursing Staff on 23<sup>rd</sup> and 24<sup>th</sup> April 2014. 24 participants were participated in the training.
- An awareness programme was conducted for STF response team on “ Method of Responding During a Radiation Accident Emergency” at STF Rear Head Quarters, Gonahena during 19-23 May 2014. 22 Participants were participated in the programme.
- An awareness programme on Radiation Safety was conducted at STF Training School, Kalutara for STF Officers on 20<sup>th</sup> June 2014. 30 participants were attended the programme.
- Radiation Protection Officer appointed for the Sri Lanka Gamma Centre was trained.
- An awareness programme was conducted for medical officers, technologists and nursing staff at Anuradhapura General Hospital on safe use of X ray Machines on 21<sup>st</sup> July, 2014. 75 personnel participated in this programme.

#### **4. Waste Management**

- At the request of Sri Lanka Custom, two consignments of scrap metal detected as radioactive at the Portal monitors were checked for radioactive contamination and necessary approvals were given to re-export the consignment as they were found to be radioactive above the levels established by the AEA.
- Shipment of Radioactive sources imported by the Health Ministry from Canada was stored temporarily at AEA storage facility until the sources were transported to Jaffna.
- Three number of Sr-90 spent radiation sources used at Ceylon Tobacco Company was brought in to the AEA and stored at Central Waste Storage Facility of the AEA. AEA charged Rs.300000.00 for this service.

#### **5. Other Activities**

- Inspections were carried out with US DOE Physical Protection specialists at the following places to find out progress of implementation of source security arrangements provided by the US GTRI programme and to assess the further assistance required to enhance the security for the sources.

Ansell Lanka Ltd, Biyagama. Cancer Institute, Maharagama. Tissue Bank, Colombo 07, Teaching Hospital, Karapitiya.

- Prepared a check list for licensing and inspection of new irradiation located at Sri Lanka Gamma Centre, Biyagama.
- At the request of Sri Lanka Gamma Centre (SLGC), Biyagama, Radiation Protection Division provided service of a Radiation Protection Officer (RPO) to the SLGC from 03/07/2013 to 03/01/2014. This service included the supervision of source transport, source loading, leak testing, radiation survey, personnel protection and provision of in house training to newly recruited radiation protection officer.
- Carried out radiation protection regulatory inspections at newly established irradiator facility at Sri Lanka Gamma Centre, Biyagama.

### **3. International Cooperation Division**

The Atomic Energy Authority (AEA) functions as the national focal point for the International Atomic Energy Agency (IAEA) and coordinates preparation of National Project Concepts online using PCMF (Project Cycle Management Framework). 12 project concepts were submitted to the IAEA through the PCMF and five projects out of 12 projects were selected to be further developed in design stage. These projects are to be implemented 2016/2017 biennium cycle. Those projects are in line with the Country Programme Framework (CPF) and national development plans such as Mahinda Chinthanaya Forward Vision. Followings are the five project concepts approved for further development through PCMF.

	<b>Project Title</b>	<b>Counterpart Institute</b>
1	Strengthening of Nuclear Analytical capabilities of the Atomic Energy Authority	Atomic Energy Authority,
2	Establishment of a Regional Centre for Research and Training in Medical and Molecular Entomology for vector-borne disease control	Molecular Medicine Unit, Faculty of Medicine, University of Kelaniya,
3	Improving Livelihoods Through Dairy Cattle Production: Women Farmer's Empowerment in Rural Sri Lanka	Faculty of Veterinary Medicine and Animal Science, University of Peradeniya
4	Reducing Cardiometabolic Risk In Sri Lankans Through Addressing Adolescent Health And Nutrition	Department of Physiology Faculty of Medicine, University of Colombo
5	Continuation of the Project on Strengthening of Non Destructive Testing (NDT) through Establishment of a National Centre for NDT (NCNDT)	National Centre for NDT, Atomic Energy Authority,

During the period, AEA has received opportunities from IAEA, Regional Cooperative Agreement Regional Office (RCARO) in South Korea and MEXT in Japan to train local scientists in the field of Nuclear Science and Technology. 84 opportunities were received by scientists, engineers and researchers in related national institutes to participate in overseas training, workshop and meetings. The selected officials were trained at the institutions of excellence in the fields of industry, medicine, agriculture in Member States of the IAEA where radiation technology is used.

The PCMF web based system of IAEA was used for submission of national project concepts and TCPRIDE was used for project monitoring and to obtain information required for various purposes at AEA. The web based internet platform is widely used for the Technical Cooperation Programmes. IAEA In touch internet platform is used for uploading of fellowship and scientific visit applications. IAEA encourages using this platform to upload applications of training, meeting and workshop etc.

### **3.1. Systematic implementation of the Technical Cooperation Projects**

IAEA approved five National TC projects for 2014 – 2015, 17 Regional Cooperative Agreement (RCA) projects and interregional projects and these projects were successfully implemented during the year 2014.

With the purpose of increasing of productivity of both IAEA National Projects and IAEA/RCA projects, Project Review and evaluation Meetings were conducted in collaboration with Training & Evaluation Unit of AEA throughout the year 2014.

The Authority provided logistic support to Nuclear Medicine Unit, Faculty of Medicine, University of Peradeniya, Anti Malaria Campaign, Marine Environment Protection Authority, Department of Agriculture and Geological Survey & Mines Bureau to obtain Technical Cooperation support under TC projects. National Centre for Non Destructive Testing commenced operation in 2014 and IAEA provided technical assistance to train personnel in the center.

### 3.2. Hosting of IAEA Events in Sri Lanka

The Authority hosted six IAEA events in Sri Lanka during the year 2014 as follows.

Project No	Event	Duration
RAS/5/066	First Coordination and Consultative Meeting	05 to 09 May 2014
RAS/1/014	IAEA/RCA Mid-Term Review Meeting	23-27 June 2014
RAS/9/0/71	Regional Training Course on Disposal of Radioactive Waste	30 June to 04 July 2014
RAS/6/063	IAEA/RCA Regional Training Course on Improving Nuclear Cardiology Services in Evaluation of Ischemic Heart Disease (IHD) and Left Ventricular Failure	07-13 July 2014
RAS/7/023	IAEA/RCA Regional Workshop on Impact of Air Particulate Matter (APM) Concentrations and Sources on Cultural Heritage Objects	07-11 July 2014
RAS/5/062	Regional Training Course on Multivariate statistics and use of on-line toolbox	13 – 24 October 2014

As these events were held in Sri Lanka, AEA was able to offer opportunities for many Sri Lankan scientists and researchers to train and exchange ideas with experts and scientists who came from various countries.

### 3.3. Coordination of Bilateral Discussion with the IAEA Member States

The AEA had bilateral discussions with ROSATOM, of Russia, Pakistan and India to obtain technical assistance in order to develop nuclear technology in Sri Lanka.

#### **Bilateral Discussion with, Russia**

A team comprising seven members including interpreter visited Sri Lanka from 22-24 April 2014 in order to have further discussions to acquire technical assistance to utilize atomic energy for peaceful purposes.

#### **Bilateral Discussion with Pakistan**

A Memorandum of Understanding (MOU) was drafted in cooperation with the Pakistan Atomic Energy Commission (PAEC). AEA expects to obtain technical assistance to develop nuclear techniques in human health, agriculture, industry and environment.

#### **Bilateral Discussion with India**

Expected cooperation through the MOU with India to transfer and exchange of knowledge and expertise, the sharing of resources, capacity building, sharing of experience, and the training of personnel, in relation to the following areas;

- a. Basic and applied research in the peaceful uses of nuclear technology;
- b. Production and utilization of radioactive isotopes for use in industry, agriculture and water management;
- c. Use of radioactive isotopes for healthcare including nuclear medicine;
- d. Nuclear Safety, radiation safety, Nuclear and Radiological Disaster Mitigation and environment protection,;
- e. Nuclear Security
- f. Treatment and management of radioactive wastes;
- g. Such other areas of cooperation as are mutually agreed upon by the Parties.

Second Meeting on Indo Sri Lanka bilateral consultations on Comprehensive Civil Nuclear Cooperation was held in 5-6 May 2014 in Sri Lanka. Sri Lankan delegation met the Indian delegation during the IAEA General Conference and further discussion was held. Third meeting was held in India on 10th October 2014.

### **3.4. MEXT - The Nuclear Researchers Exchange Programme of Japan 2014.**

The Authority coordinates Japan MEXT Scientists Exchange Programme. Twelve applications received from various national institutes in Sri Lanka were submitted to MEXT (Ministry of Education, Culture, Sports, Science and Technology). The Japanese authorities selected two scientists from Department of Agriculture, Peradeniya and Ceylon Electricity Board to participate in the above programme in 2014.

### **3.5. IAEA General Conference**

The delegation headed by the Secretary to the Ministry of Technology and Research together with the Director General of AEA, and Deputy Director of International Cooperation Division of AEA who functions as the Technical Cooperation Liaison Officer to IAEA attended the 49<sup>th</sup> General Conference of the IAEA. Formal discussions were held with the officials of the Department of Technical Cooperation regarding issues connected with ongoing Technical Cooperation projects and bilateral discussion were held with delegations of Russia, India and Pakistan in order to strengthen technical cooperation to develop nuclear technology in Sri Lanka .

## **4. Activities of the General Scientific Division (GSD)**

### **4.1. NUCLEAR INSTRUMENTATION PROGRAMME**

It is an essential pre-requisite to maintain nuclear instruments in proper operating condition, for the optimum utilization of invested resources (instruments, man power), for socio economic development of the country. The Nuclear Instrumentation Section of the General Scientific Division (GSD), provides the necessary support services and advice in maintaining nuclear instruments in order to derive benefits of nuclear technology to Sri Lankan community.

#### **4.1.1. Maintenance of Nuclear Electronic Equipment/Services**

- a. Number of Repairs & Maintenance Services of nuclear instruments, installation of software, performance tests, carried out by the GSD in 2014 was 53.
- b. The number of software and hardware maintenance of computers and Local Area Network related services provided to AEA were 55.
- c. Advice in consultation work on development Activities/services:
  - i. Nuclear Instrumentation Expert Group of the GSD has taken the responsibility of calibration and maintenance of 07 remote monitoring stations of Nuclear Early Warning System of the country. Remote detector stations at Talaimanar was shifted and reinstalled in Puttlam
  - ii. Calibration of detectors maintenance of the server, data monitoring and analyzing the results are main activities regularly carried out to assume the reliable data.

### 4.1.2. Training

An undergraduate student of Department of Physics, University of Peradeniya was trained in “Determination of indoor Radon concentration using alpha sensitive active RAD7 solid state detector” under the guidance of the staff of the GSD.

### 4.2 Secondary Standard Dosimetry Laboratory (SSDL)

The Dosimetry Section of the AEA is responsible for establishment and maintenance of radiation metrology standards with the highest quality for provision of services, required for the country.

The primary beneficiaries of services provided by the improved dosimetry calibration services of the SSDL are patients undergoing medical procedures using radiation, radiation workers and the general public.

The Secondary Standard Dosimetry laboratories provides link with International measurement system to disseminate metrology standards for accurate measurements in areas mentioned above.

The SSDL possesses basic instruments, which have been calibrated against the International standard traceable to the primary standard at Bureau of the International Weight & Measure (BIPM) in France. These instruments are well maintained and the Quality Management System of SSDL has been established in compliance with ISO/IEC 17025:2005 and implemented, in order to ensure the accuracy and traceability of results to international measurement system of units. Continual development of capabilities are necessary to adopt the current development in this field. This laboratory received first accreditation certification in June 2009 and since then it maintains its accreditation status.



*Fig.4.1: Irradiation Room of SSDL and Control Room*

#### **Services/work:**

- No. of certifications issued on dosimetry calibration of radiation monitors to AEA and other institution were 70.

[It is mandatory that every institution where radiation sources are used, should obtain personal monitoring service, for occupational exposure control and dosimetry calibration services regularly to calibrate their radiation monitoring devices / instruments, in order to ensure the radiation safety of the workplace/workers].

- 600 TLDs were irradiated for Calibration of TLD readers and quality assurance of Personal Monitoring Program for measurement of occupational exposures of radiation workers in the country.
- Environmental monitoring TLDs were irradiated for quality assurance and environmental radiation monitoring program.

- Therapy calibration service for verification/calibration of clinical beams was provided to Cancer treatment Unit, Maharagama and Cancer treatment Unit, Base Hospital, Tellippalai, Jaffna.
- IAEA TLD audit program was arranged to verify therapy clinical beams for cancer treatment in the therapy centers in the country.
- Regular Maintenance of Reference and ancillary equipment, and reference radiation standards at SSDL were done.
- An X-ray system for protection level and diagnostic level calibration was obtained through IAEA TC project, SRL/0/010 under cost sharing basis and this X-ray system has been installed at SSDL. Verification of radiation beam qualities is being carried out.
- Periodic tests to verify the stability and accuracy of reference standards and measuring standards at SSDL were performed.
- Continual improvement of Quality Management System of SSDL is being carried out.
- Necessary arrangements were made to get IAEA assistance to verify the accuracy and traceability of SSDL results.

#### 4.3. ICT Applications:

1. 8 MB broadband data line was established to improve existing network facilities of AEA.
2. Maintenance of the AEA website and local area network was carried out by GSD.
3. IT services (operating system installation, troubleshooting of computer hardware and repair work, rectification of software related issues in nuclear spectroscopy systems, nuclear analytical systems) were done.
4. Provided IT support to implement office automation system based on Quick Book Account package

Retaining IT staff at AEA is a burning issue at AEA which prevent development activities of IT. At present an immediate is working at the IT unit.

#### 4.4 Personal Monitoring Service (PMS), for monitoring occupational exposures of radiation workers to ionizing radiation:

The main objective of this program is to ensure the radiation safety of radiation workers in the country.

Regulations of Radiation Protection in the country make it mandatory, for all users of radioactive materials and irradiating apparatus, to be monitored by personal monitoring devices, approved by the Atomic Energy Regulation. The General Scientific Division provides a personal monitoring service to monitor occupational ionizing radiation exposures regularly, to radiation workers island-wide, using Thermo-luminescent dosimeters (TLDs).

Number of persons monitored for occupational exposures to Ionizing Radiation on monthly/bi-monthly basis is 900 (average no. during the year).



*Fig.4. 2: Automated TLD Reader*

Quality Management System in compliance with ISO 17025:2005 has been developed and implemented. The Personal Monitoring Service Laboratory (PMSL) received accreditation certification in July 2014.

**Training:** Personal monitoring staff was trained to qualify as per the Quality Management System of PMSL.

#### 4.5. Environmental Radiation Monitoring Programmes in Sri Lanka - work carried out in the year 2014:

##### 4.5.1 Baseline Environmental Radioactivity Measurements

Environmental Radiation Monitoring, for the establishment of baseline data, on environmental radiation, is being carried out. This project is being carried out in collaboration with General Scientific Division and Life Sciences Division. Dose rate measurements and collection of soil/grass samples at 67 locations were completed in 2014. Out of 400 locations (400 locations have been selected to represent the whole country) dose rate measurements and collection of samples in 321 locations were completed by end of 2014. A software program has been developed to visualize the data on Sri Lanka Map.

Gamma spectroscopy analysis of soil and grass samples at 224 locations were completed.

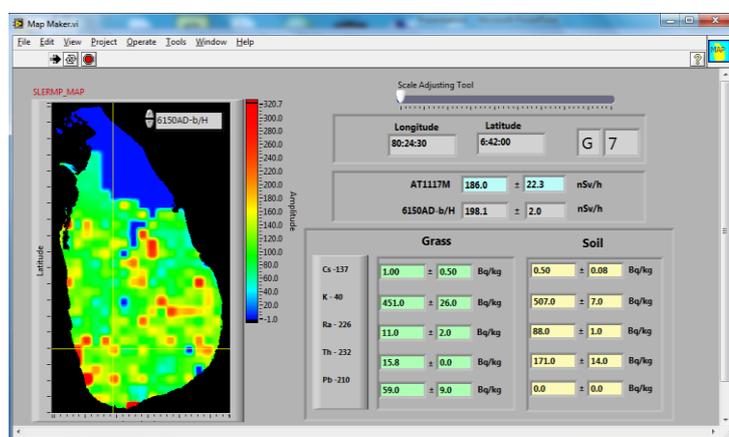
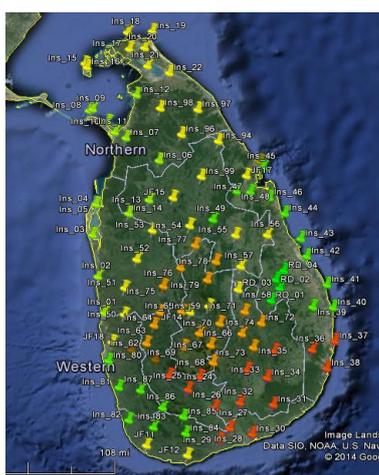


Fig. 4.3: Shaded areas in the map denote locations where ambient gamma dose rates were measured.

Main objective of the programme is to protect people and environment from transboundary radioactive materials dispersion due to accidents.

##### 4.5.2. In-situ Gamma Measurements



Instrumentation support and expert knowledge were provided by the GSD under the guidance of IAEA TECDOC-1092 for system calibration, data acquisition, in the field to carry out in-situ gamma spectroscopy measurements. Measurements at 100 locations have been completed.

Fig 4.4: In-situ Gamma Spectroscopy was carried out at 100 locations.

### 4.5.3. Radon Monitoring Programme in Sri Lanka –

Radon measurement programme is carried out with the assistance of Nuclear Institute of Radiological Science (NIRS) and the University of Tokyo Japan. This programme is carried out in collaboration with the Institute of Fundamental studies (IFS). Prof. Thakeshi Iimoto, University of Tokyo visited Sri Lanka from 10<sup>th</sup> -12<sup>th</sup> Dec. 2014 to strengthen the activities of this program.

Indoor and Outdoor Radon/Thoron monitoring were completed in the southern part of the Country. Outdoor Radon/ Thoron levels at 47 locations were measured using CR39 track detector (passive method) provided by the University of Tokyo and In-door Radon levels at 49 houses were measured with Alpha track detectors provide by the IAEA.

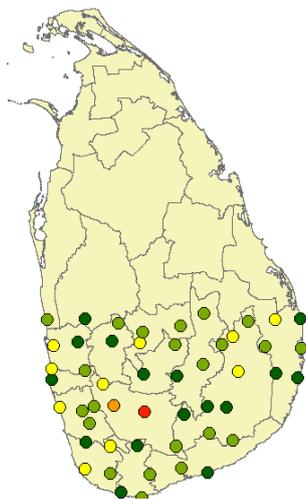


Fig 4.5: Locations at which Indoor & outdoor Radon/Thoron measurements were carried out

RAD7 active method Radon monitoring instrument was purchased with the necessary accessories to measure Radon and Thoron in Air, soil and water. A three-day workshop was arranged with Derek Lane-Smith, Chairman of DURRIDGE Company to demonstrate the operation and handling procedures of the RAD7 instrument. In-situ Radon level measurements were started with RAD7 instrument and indoor Radon/Thoron levels of 20 houses in Central Province were completed.

## 5. National Centre for Non Destructive Testing



Fig. 5.1 : Opening of NCNDT

Testing and Destructive Testing services to industrial sector which can be competitive with regional NDT service providers.

### Establishment of a National Centre for Non Destructive Testing (NCNDT)

The project to establish a separate centre for Non Destructive Testing (NDT) was launched in 2011. The Centre was declared open on 14<sup>th</sup> October 2014 and commercial operations were initiated. The project cost was Rs. 500 million. This Centre is planned to have well equipped accredited laboratories as per internationally accepted standards providing Non Destructive

Testing and Destructive Testing services to industrial sector which can be competitive with regional NDT service providers.

It is hoped that the Centre will be able to strengthen capabilities and capacities of NDT to enhance the quality and productivity in industrial sector.

Some of the techniques that are planned to establish and provide services through this Centre are common NDT Methods (RT,UT,MT,PT and ET), Leak Testing, Vibration Monitoring, Acoustic Emission, Stress and Strain Gauging, Thermography, Digital

Radiography, Tomography and Phased array UT, Visual Testing, Welder Qualification Test, Concrete Testing, Mechanical and Chemical testing related with NDT.

Provision of training, qualification and certification of NDT personnel in all the above techniques is another objective of this Centre. All these techniques and activities are to be accredited as per the international acceptable Standards.

NCNDT launched its activities mainly in three directions.

- Manpower Development Programme
- Provision of services
- Research & Development

### 5.1. Manpower Development Programme:

Training programmes are annually conducted in various methods of NDT. As a result, NDT manpower in the country increased during the past few years. In addition, a number of private and public sector organizations were able to establish their own NDT facilities.

It also created overseas employment opportunities for trained Sri Lankans as the certificates issued under this programme have international recognition. The training courses are conducted as per the ISO 9712 and personnel certification is implemented as per the ISO 17024.

**266** personnel participated in NDT training courses and workshops in 2014. 36 NDT practitioners were certified in different NDT methods and levels. Total income generated by the NDT programme was Rs 4.6 million (excluding tax) in 2014.

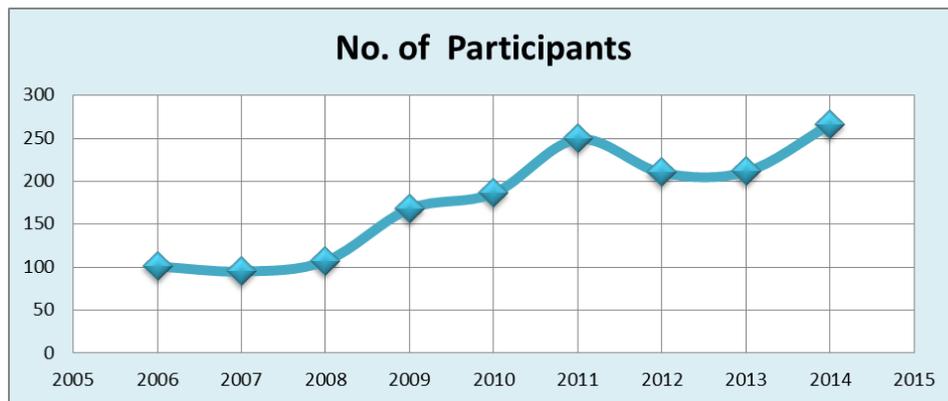


Fig. 5.2: No. of training courses, workshops and repeat exams during 2014

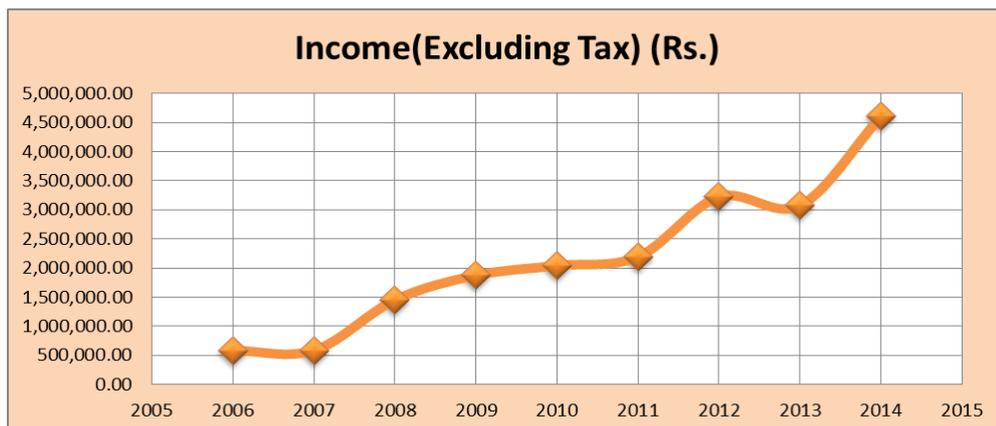


Fig.5.3: Income from training courses, workshops, repeat exams and certifications during 2014

## 5.2. Provision of NDT Services:

NDT inspection services are provided to industry in order to detect defects in industrial systems to ensure industrial safety and to improve productivity. 08 Government institutions, 08 power stations and 28 private sector institutions obtained NDT services in 2014. Total 160 inspection services were provided in 2014 and an income of Rs 5.9 million (excluding tax) was generated.

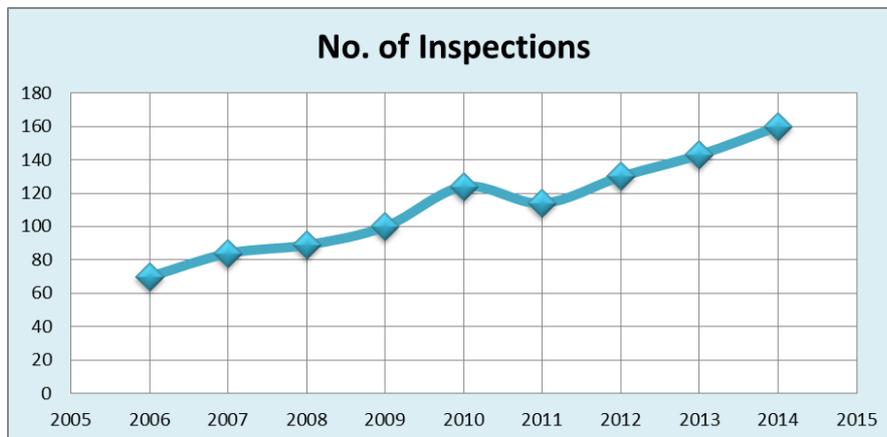


Fig.5.4: Number of NDT Inspections provided in 2014

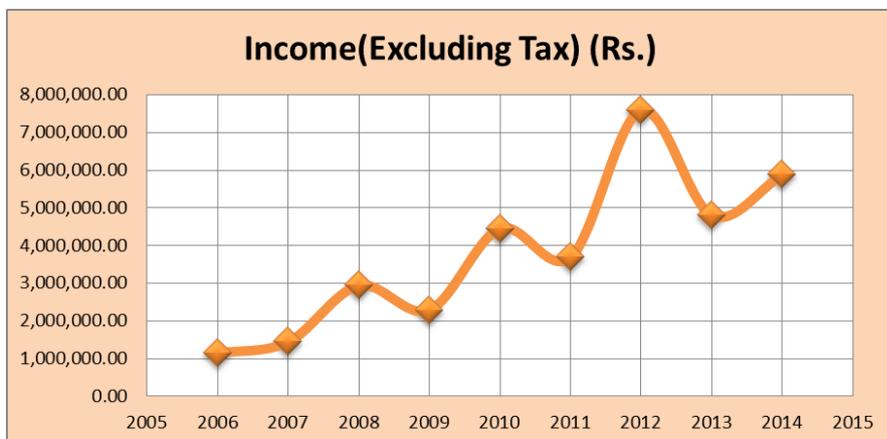


Fig.5.5: Income from NDT Inspections

Total income generated out of the NDT programme for 2014 is Rs. 10,490,024.56 (excluding tax).

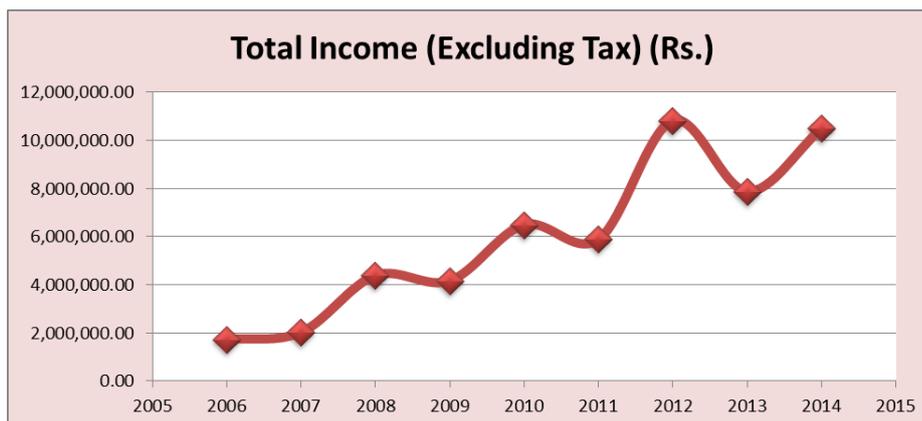


Fig.5.6 : Total income generated out of the NDT programme for 2014

### **5.3. Development Work**

#### **5.3.1. Activities of Quality Management Unit of NCNDT**

##### **5.3.1.1 Quality Management Activities related to Certification Body for Non Destructive Testing**

- Annual Internal Audit of Certification Body for NDT (CBNDT) was carried out on 01<sup>st</sup> & 02<sup>nd</sup> July 2014.
- Three (03) Technical Advisory Committee meetings were held during the year.
- Logo and Certificate for the CBNDT were introduced.
- The first external CBNDT Certification was issued and totally qualified individuals in NDT methods were certified in 36 respective methods/levels.
- A system for making payments (CBNDT application fee) for CBNDT certification was initiated.
- 07 examinations on ET-Level 1, PT-Level 1 & 2, RT-Level 1 & 3, and MT-Level 1 (two examinations) were conducted.
- Application for accreditation of CBNDT as per ISO/IEC 17024:2012 was submitted to Sri Lanka Accreditation Board (SLAB) and the Quality Manual of Certification Body was revised accordingly. New Standard Operating Procedures (SOP) were introduced.
- The accreditation re-assessment of CBNDT was carried out on 17<sup>th</sup>, 18<sup>th</sup> & 24<sup>th</sup> November 2014 by SLAB.
- The accreditation assessment related to examination activities of CBNDT was carried out on 30<sup>th</sup> & 31<sup>st</sup> December 2014 by SLAB.

##### **5.3.1.2 Quality Management Activities related to Inspection Body (NDT Inspection Activities):**

- The Quality Manual of NDT Inspection Body was revised as per the ISO/IEC 17020:2012 and relevant Standard Operating Procedures were completed.
- Application for accreditation of Inspection Body as per the ISO/IEC 17020:2012 was submitted to SLAB.

##### **5.3.2 Activities of Boiler and Pressure Vessel Safety Management Unit / Propaganda Activities Unit**

- Prepared a data base including data on boiler owners, boiler manufactures, etc.
- One workshop was conducted for engineers in Ceylinco Insurance (PLC) under the topic "NDT awareness Programme for Insurance Partners" and 15 participants were participated in this workshop.
- Prepared and printed 02 NDT brochures and 01 file cover.
- Published 10 news items related to NDT in AEA WEB site.
- Organized and effectively participated in 02 exhibitions and 02 School seminars.

### 5.3.3 Welder Qualification Programme

- Construction of Welder Qualification Facility (WQF) within the NCNDT main building was completed.
- The specifications of essential equipment and accessories were submitted and relevant procurement activities are proceeding with the objective to initiate welder qualification service in 01<sup>st</sup> quarter of 2015.
- Arrangements have been made to obtain the field experience and to draft the documents on the subject for relevant NCNDT staff.

### 5.3.4 Activities of NDT –Concrete Testing Unit

- The staff is well familiar on all new NDT-CT equipment available at the NCNDT laboratory.
- Services on NDT for concrete structures initiated and 09 services were provided.

## 6 Radiation Processing Section

### 1. Objectives of the Radiation Processing Section:

The Radiation Processing Section functions under the Industrial Applications Division of the Atomic Energy Authority and mainly concentrates on Research and Development (R & D) activities.

Main objective of the Radiation Processing Section is Development of radiation processed materials which are free from hazardous materials to be used in different fields such as Environment, Health, Agriculture and Industry.

At present, two IAEA/RCA projects and one RCA/UNDP project are carried out by the section.

#### 2.1. IAEA/RCA project RAS 1014 on Radiation processing for development of advanced grafted materials for industrial application and environmental preservation:

The main objective of the project is to develop advanced grafted materials, for industrial applications, in the form of membrane, gel, fiber, hybrid coating etc. Development of Super Water Absorbent (SWA), Fertilizer Slow Releasing agents for agriculture applications, Heavy Metal Absorbent and Oil absorbent for mitigating environmental pollution by the removal of toxic elements and harmful compounds from water bodies are the other objectives of the project.

Farmers in some geographical areas of Sri Lanka such as Kalpitiya, Anuradhapura are facing difficulties in carrying out cultivation due to lack of water retaining ability in sandy soil. In Kalpitiya area the inherent nature of the soil is sandy. As such, externally added water is not retained in the soil and farmers faced difficulties in supplying water externally to the fields and spending high labour cost for daily watering of fields. Same situation can be seen in drought areas like Anuradhapura as the externally applied water to the soil evaporates quickly due to drought weather condition. The radiation grafted SWAs can be effectively used for Agricultural aspects in drought areas and in urban agriculture.

Research team of the AEA is carrying out research and development work under IAEA/RCA project RAS /1014 to develop a new Super Water Absorbent material using radiation grafted polymers.

SWA products have been developed using different procedures by changing pressure, temperature and preparation methods. The product was tested for water absorbent capacity as well as water releasing ability. Radiation grafted natural polymers provide an alternative better solution for the issues related to water absorbance and fertilizer releasing in a cost effective manner. Swelling Property of developed SWA according to the methods, formulas and different Irradiation doses were studied. The developed SWA product shows highest swelling percentage in the range of 25000-30000% (w/w) with natural water.



*Fig.6.1: SWA at Developing stage*

## **2.2. Developing a chemical absorbent using Non-woven Polymer:**

Sri Lanka is facing acute problem of air, water and soil pollution since past few years due to fast growing industries such as textiles, metal plating. Radiation grafted fibrous polymers become one of the best solutions for the treatment of waste water since they have shown selectivity for uptake of toxic and hazardous materials from water bodies and they have proven to be excellent bio-compatible products.

Under the IAEA project RAS/1014, a radiation grafted heavy metal absorbent polymer is prepared using both Non-woven Polyethylene/Polypropylene (PE/PP) and Polypropylene (PP) fabric as the trunk polymer and Acrylic acid as the monomer. The Co-60 Gamma cell at Human Tissue Bank is used for the irradiation of samples. The simultaneous grafting method is used to irradiate the samples.

Furthermore, upon radiation grafting, the hydrophobic nature of the nonwoven PE/PP and PP fabric is converted to hydrophilic nature and as such the fabric is wetted by water. These properties can be applied to treat waste water in order to remove metal ions from water bodies. The reusability of these radiation grafted materials was studied.

## **2.3. Preparation of Heavy Metal Absorbent using Chitosan**

In addition to above two research projects another research work is carried out under the IAEA/ RCA project RAS 1014 to develop a heavy metal adsorbent using chitosan.

Objective of this research project was to modify Chitosan by radiation grafting of hydrophilic monomer onto Chitosan films and study the absorption of metal ions. Finally, it was planned to develop an environmental friendly material to removing heavy metals in waste water.

Qualitative determination of the metal absorbent capacity ( $\text{Cu}^{2+}$ ) of the grafted Chitosan films were examined and compared with the non-grafted Chitosan films. Also, the monomer grafting percentage of the modified grafted Chitosan films were worked out and the surface characterization of these films were studied using FTIR. Finally, the efficiency of metal ion absorption by modified grafted Chitosan films was studied using UV- VIS Spectrophotometry.

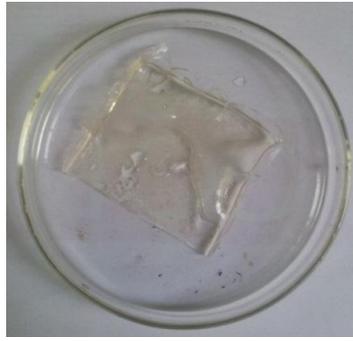


Fig.6.2 -Ungraftedchitosan film

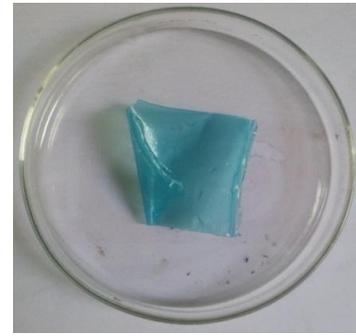


Fig.6.3- Radiation grafted chitosan film which  $Cu^{2+}$  metal is adsorbed

#### 2.4. Past and present efforts of RAS 8/109 - Radiation Degradation of Natural Polymers (Chitin/Chitosan)

The objective of the project is to develop advanced grafted materials for agriculture applications. The Chitin, second abundant natural polymer in the world is extracted from shells of crabs, shrimps, prawns etc. is used to produce chitosan.



Fig.6.4: CHITO POWER Package

The research and development work is carried out to develop new products using chitosan for agriculture applications. The project was implemented by the Atomic Energy Authority in collaboration with the Department of Agriculture under the activities of IAEA/RCA project RAS/8/109, ‘‘Supporting Radiation Processing of Polymeric Materials for Agricultural Applications and Environmental Remediation’’. Two new products were developed using Radiation Modified Chitosan for agriculture applications. These products are introduced as CHITO POWER package which consists of CHITO POWER-1 and CHITO POWER-2.

Field trials of CHITO POWER package was carried out for Tomato, Capsicum, Chillies, Bitter Gourd, leafy vegetables such as Gotukola, Mukunuwenna in collaboration with the Horticultural Research & Development Institute (HORDI), Department of Agriculture. The results of these field trials confirmed that the CHITO POWER package showed most similar results to the DOA recommended commonly used products. Research was carried out for seeds planting and plant budding using Jack fruit varieties, Durian fruit etc. The effectiveness of the plant budding for Jack fruit showed 40% with commonly used procedure, while it showed 80% of effectiveness for plant budding with CHITO POWER. Further development of the product has been carried out in order to obtain product certification for commercializing the new product.



Fig.6.5: Successfully grafted jack seeding



Fig.6.6: Pest/disease control of “chito power” treated Tomato crop and Gotukola

## 2.5. Receiving an award at the “ Sahasak Nimaewum 2014”

CHITO-POWER, the new product developed by Radiation Processing Section won the first place in the *open category* under the technical field of environment at the competition of in “SAHASAK NIMEVUM-2014” National Invention Exhibition held at BMICH on 16<sup>th</sup> December 2014.



Fig.6.7: Awards received at “Sahasak Nimewum 2014”

### Future Plans of the project:

- Continuation of Research on Pilot scale production of CHITO POWER.
- Develop the Pilot scale Production procedure for CHITO POWER production.
- Residual analysis of soil will be carried out after applying CHITO POWER to the field.

### Mid Term Review Meeting:

Mid Term Review Meeting on IAEA/RCA Project RAS/1014 on Development of Advanced Grafted Materials for Industrial Applications and Environmental Preservation was held in Sri Lanka with the participation of IAEA Technical officer and 20 participants from member states from 23<sup>rd</sup> to 27<sup>th</sup> June 2014. The meeting was organized by the Atomic Energy Authority. Progress of the activities planned under the project during 2012-2014 was discussed and work plan for the year 2015 has been prepared at the meeting.

## 2.6 RCA-UNDP Project on Electron Beam (EB) Applications for Value Addition to Food and Industrial Products and Degradation of Environmental Pollutants in the Asia-Pacific Region

The main objective of the project is to disseminate the knowledge on EB technology in different fields to upgrade the quality of food and industrial products and to minimize environmental impact caused by flue gas and effluent released from the factories.

The Team members of the project were participated the Regional Training Courses (RTC) which was organized under the project during the year 2014. The training programs are RCA/UNDP Regional Training Course on Electron Beam Applications for Advance Material and the Regional Training Course on Electron Beam Applications for Value Addition to Food and Agriculture Product in Asia. The objective of the RTC programs was to train the trainers to disseminate the knowledge on Electron Beam application in different fields to stake holders and general public.

- Participants/team members in the above programs were conducted presentations to the Scientific Staff of AEA to share the knowledge gained through the RTC in the Activity day programs which was held in AEA on 29<sup>th</sup> April, 22<sup>nd</sup> July and 27<sup>th</sup> August 2014.
- Workshop on Electron Beam Technology was conducted on 12<sup>th</sup> November 2014 with the assistance of team members who has been trained under the project. 40 participants from Food and Agriculture institutes as well as Industry were participated in the workshop.
- Disseminated the Knowledge on EB technology to the public and stakeholders in the national exhibitions “Dayatakirula”, during 22<sup>nd</sup> February to 02<sup>nd</sup> March 2014 and “Science Week exhibition” organized by the Ministry of Technology and Research held at the Industrial Technology Institute from 4<sup>rd</sup> to 8<sup>th</sup> November 2014.
- National project Coordinator was participated in the Annual Review Meeting on RCA/UNDP project on Electron Beam Application which was held in Myanmar from 19<sup>th</sup> to 20<sup>th</sup> November 2014. Achievement of the year 2014 was discussed and Action plan of the year 2015 was finalized at the meeting.



Fig.6.8: Science Week Exhibition

## 7. Sri Lanka Gamma Centre

Commercial operation of the Sri Lanka Gamma Centre (SLGC) was started on 02<sup>nd</sup> January 2014 as extended trials. The SLGC was officially opened on 17<sup>th</sup> February 2014 at Biyagama Export Processing Zone with the participation of Honorable Minister Basil Rajapaksha.



Fig. 6.9: Opening of SLGC

### Customers

Currently as the irradiation service provider, SLGC is engaged in irradiation of surgical gloves, manufactured in our country in order to cater Sri Lankan government hospitals, which imported sterile surgical gloves from other countries for past decades. Thereby the SLGC has Contributed to retain the foreign exchange spent to import sterile gloves for government hospitals in Sri Lanka. Main customer of SLGC is currently the Lalan Rubbers (Pvt) Ltd. An Agreement was signed between Lalan Rubbers (Pvt) Ltd and Atomic Energy Authority.



Fig. 6.10: Publicity Programme of SLGC

Workshops and exhibitions were held to make aware potential industries about irradiation technology.

## **Discussions and Visit to SLGC:**

The following industries visited the SLGC and had discussions to obtain irradiation services. Prime Polymers, Minra Garments, Sisili Projects Consortium (Pvt) Ltd, Medi plus Surgicals, Fredo Swiss, Leckner Multi Moulds Pvt. Ltd., Ruhunu Foods (Pvt) Ltd, Customer dealing with exportation of wooden ornaments (wooden masks etc.), Bogawanthalawa tea estates PLC, Gem exporter, Phoenix Industries (Pvt) Ltd., Basilur tea (Pvt) Ltd. Tea Tang and Spice of Life (Pvt) Ltd., Medisense international (Pvt)Ltd., Quick Tea (Pvt) Ltd., Hettigoda group, Nidro Supplies (Pvt) Ltd, Wichira Vacuum Dehydrated Natural Foods, Glaxo Smith Kline.

## **Trials**

The following industries carried out test trials in the SLGC.

Tea Tang and Spice of Life (Pvt) Ltd., Medisense international (Pvt) Ltd., Quick Tea (Pvt) Ltd., Hettigoda group, Nidro Supplies (Pvt) Ltd, Wichira Vacuum Dehydrated Natural Foods, Glaxo Smith Kline

## **Research & Development**

Irradiation Service was provided to the following R&D activities.

1. Project on 'implementation of sterile insect technology for prevention of malaria disease'.
2. A research on irradiation of herbal products for R & D purpose.
3. A research on irradiation of larvae of animal disease causing organism from University of Peradeniya & University of Wayamba.
4. A research on mutation breeding of plant material through irradiation by Horticultural Crop Research and Development Institute (HORDI).

## **Achievements**

SLGC was awarded with the ISO 9001:2008 Quality Management System on 27<sup>th</sup> October 2014 from Sri Lanka Standards Institute.

The SLGC has earned an income of Rs 45.9 million in 2014 by irradiating 3597 m<sup>3</sup> of surgical gloves.

## **8. Life Sciences Division (LSD)**

LSD is mainly responsible for establishing nuclear and associated analytical facilities at the Atomic Energy Authority and to promote their applications for socio-economic development of the country. The Division is mainly comprised with three main units, namely, Nuclear Analytical Services Unit, Health and Environment Studies Unit and Nuclear Agriculture Unit. The LSD provides its services to the Radiation Protection & Regulatory Division, import & export sector, industrial sector, research and academic institutes through the utilization of nuclear and associated analytical methodologies. Currently the LSD does its services through three major Nuclear Analytical Laboratories; Low Level Counting Laboratory for Gamma spectrometry, Low Level Counting Laboratory for alpha spectrometry and X-ray Fluorescence (XRF) analytical laboratory.

## 8.1 Analytical Services by Gamma Spectrometry

The Analytical Services Section has analyzed 4273 milk food samples in 2014 and issued analytical reports to the customers. Through this activity quality of milk food imported to the country is tested for possible radioactive contamination assuring the safety of consumers. Also 1464 frozen fish and canned fish samples were analyzed from imported consignments to check the quality of frozen fish and canned fish imported to the country is tested for possible radioactive contamination assuring the safety of consumers. In addition, 1605 Tea and other food commodities were analyzed during 2014 and issued analytical reports to the exporters.



Fig. 8.1: Gamma Spectrometry Laboratory

The income generated through the analytical Service in 2014 was Rs 37.4 million. The number of samples analyzed and income generated during the past ten years are given in the graph below.

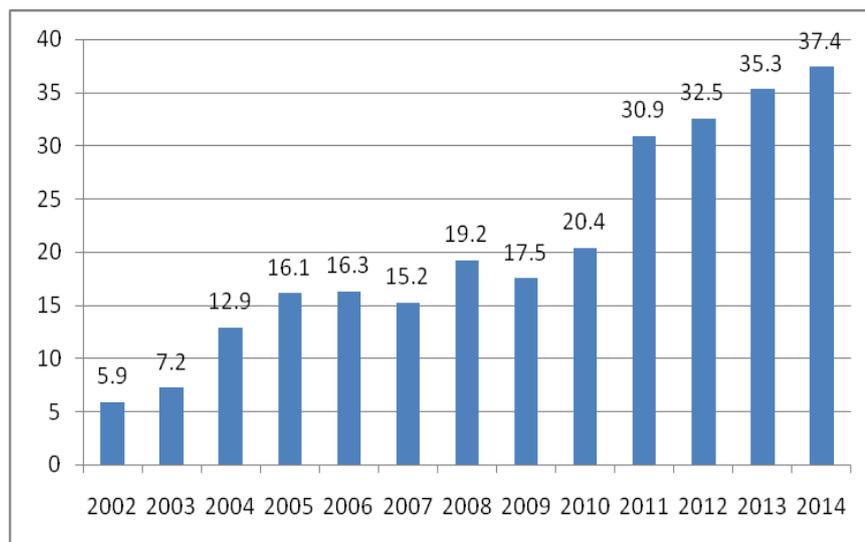


Fig.8.2: Income generated from Nuclear Analytical Services (2002-2014)

## 8.2 Research and Development Activities Using Gamma Spectrometry

a) **Monitoring of Environmental Radioactivity levels** was continued in collaboration with the other Divisions of the AEA. The purpose of this activity is to establish the national baseline levels of radioactivity present in the environment and to prepare a radioactivity map for Sri Lanka. Altogether, 81 samples of soil and vegetation collected from different locations in the country have been analyzed in 2014, for the determination of existing natural and anthropogenic radionuclide.



Fig.8.3: Preparation of soil samples for analysis

b). **Marine Environmental Monitoring Programme** for possible radioactivity contamination after Fukushima Nuclear Power Plant accident took place in Japan in March 2011. Sri Lanka has been able to establish its marine radioactivity Database successfully with the technical support provided by IAEA through the implementation of the regional project RAS/7/021 “Marine benchmark study on the possible impact of the Fukushima radioactive releases in the Asia-Pacific Region”.

However, in parallel, the AEA launched a monitoring of imported fresh fish and canned fish to Sri Lanka in order to assure the quality of such food. Although there were number of canned fish contaminated with cesium 137 and 134, the level of contamination was found to be below the permissible levels stipulated by Sri Lankan government. The testing is being continued and it has been observed that the level of radioactivity contamination in imported frozen fish and canned fish are negligible.

### 8.3. R&D Projects

- a) IAEA/RAS/7/023; Supporting Sustainable Air Pollution Monitoring Using Nuclear Analytical Technology.

Air Pollution Monitoring Program was continued in collaboration with Central Environmental Authority and Department of Meteorology. New sampling location was established at Meteorological station in Katugastota to monitor air pollution levels in Kandy area. Inter-regional Database was updated and submitted to the database coordinator. Data interpretation was done based on statistical software.

#### **IAEA/RCA Regional workshop on impact of APM concentrations and sources on cultural heritage objects;**

The Regional Workshop on Impact of Air Particulate Matter (APM) Concentrations and Sources on Cultural Heritage Objects was organized in the framework of RCA/IAEA project RAS/7/023 in Pegasus Reef Hotel, Wattala from 7-11 July 2014. The purpose of the workshop was to discuss, assess and increase awareness in the countries of the Asia-Pacific region on the influence of Air Particulate Matter and the other atmospheric pollutants (APM, gaseous pollutants) in all types of Cultural Heritage (CH) assets, including outdoor/indoor monuments, archaeological sites, museum collections etc.

- b) IAEA/ RAS/5/062. Building Technological Capability for Food Traceability and Food Safety Control Systems Through the Use of Nuclear Analytical Techniques.

The capability to certify food origin or authenticity is of significant economic importance to many stakeholders in developing countries. For example, some food products can be marketed using labels (e.g. GI, Geographic Indication) that are based on standards of identity or composition related to a very specific production area. Producing safe and high quality food is a prerequisite to ensure consumer health and successful domestic and international trade, and is critical to the sustainable development of national agricultural resources. Traceability systems play a key role in assuring food safety.

The intention of this project is to build the technical capacity so that Sri Lanka will be able to implement traceability systems based on nuclear techniques. This will be achieved by developing systems for one or two products such as Rice & Honey in the beginning. These systems can then be used as templates for future application to other commodities such as Tea, Spices etc.

## 8.4. QA/QC Program of LSD

### ISO Accredited Laboratory

Low Level Counting (LLC) Laboratory and XRF Lab of the AEA are accredited testing laboratories operating in conformance with ISO/IEC 17025:2005 International Standards. These standards are Universally recognized as the highest level of quality attainable by a testing laboratory.



The LSD is in the process of further strengthening of the Quality System through continuous participation in QA/QC programmes conducted locally as well as internationally. The laboratory is participated in internal and external proficiency testing exercises, quality audits, regular assessments conducted by the Sri Lanka Accreditation Board (SLAB). The LSD has demonstrated both the technical competency and the management system requirements necessary to consistently deliver valid test results through the participation in Proficiency Testing programmes conducted by IAEA.

The Sri Lanka Accreditation Board (SLAB) existing scope of Accreditation of LLC Lab is “Performing Nuclear Analytical Testing on Product categories of soil / sediments, water, milk power, vegetative samples (Tea, Coconut and plant seeds) and other metrics (Fish, Processed Food Items, Pharmaceuticals, Mineral Sands).

## 8.5. Establishment of Radiochemical Analysis and Alpha Spectrometry

The LSD participated in the IAEA worldwide Proficiency Test program on alpha spectrometry and the inter-comparison exercise which was organized by Nuclear Technology Institute of Malaysia to validate the analytical methods of alpha analysis and gross alpha analysis.

Radiochemical separation procedures for U-238, U-235, U-234, Th-232, Th-230, Th-228 and Po-210 have been established for environmental samples analysis, such as soil, Biota. Newly procured Liquid Scintillation Counter (LSC) for single sample analysis will be utilized for the analysis of beta emitting radionuclides in environmental samples. The Experimental protocol on Rapid Determination of Radio strontium in Milk using Cerenkov and Scintillation Counting will be established in 2015.

## 8.6. Nuclear Agriculture

Under the activities of the IAEA technical cooperation project SRL 5045 ‘Establishing a National Centre for Nuclear Agriculture’ a plant mutation breeding program has been started. The mutation breeding program has started with Rice, Mungbean, Chilli, Big Onion, Soybean with Rice Research and Development Institute, Batalagoda and Field Crops Research & Development institute Mahalluppallama. The seeds were irradiated with the technical assistance of the IAEA, at the FAO/IAEA laboratories in Siebersdorf, Austria.

## 8.7. Training Programmes-2014

Following programmes were conducted by the LSD in 2014

1. IAEA/RCA Regional Training Course on Multivariate Statistics and use of on-line toolbox: Application of Stable Isotope and Trace Element Analyses for Food Traceability were hosted by AEA and it was held in Colombo, Sri Lanka during the period of 13 - 24 October 2014. This event was organized under IAEA/RCA Project RAS/5/062 “Building Technological Capability for Food Traceability and Food Safety Control Systems through the Use of Nuclear Analytical Techniques”. Twenty eight foreign participants and ten local participants were able to attend the course.
2. An expert mission was carried out by an IAEA expert, Dr (Mrs) Karyne Rogers, GNS Science, Lower Hutt, New Zealand , 27<sup>th</sup> September to 5<sup>th</sup> October 2014, under IAEA/TC Project” Establishment of National Centre for Marine Pollution Control” to establish a National Monitoring Strategy for Coastal and Estuarine Health in Sri Lanka
3. An expert mission was carried out by an IAEA expert, Dr (Mrs) Karyne Rogers, GNS Science, Lower Hutt, New Zealand , 7-11 April 2014, under IAEA/RCA Project RAS/7/024 “Supporting Nuclear and Isotopic Techniques to Assess Climate Change for Sustainable Marine Ecosystem Management” to demonstrate sampling techniques and sample preparation Techniques to the National Project Team.
4. Provision of Training Opportunities to Graduate and Undergraduate students.  
LSD provided training opportunities to postgraduate and undergraduate students of universities. Three postgraduate research projects are supported by using nuclear analytical facilities available at LSD. At present eight university students were given the opportunities to complete their Industrial/Internship training at LSD.

## Recent Scientific Publications (in 2014)

1. A scientific paper titled “**Existing Marine Radioactivity Levels of  $^{40}\text{K}$ ,  $^{226}\text{Ra}$ ,  $^{232}\text{Th}$ ,  $^{137}\text{Cs}$  and  $^{134}\text{Cs}$  in sea sediment and  $^{137}\text{Cs}$  and  $^{134}\text{Cs}$  levels in sea water in Sri Lanka**” was presented at the 11th Coordination Meeting of the IAEA’s Network of Analytical Laboratories for the **Measurement of Environmental Radioactivity (ALMERA)**, Vienna, Austria, 07-10 Oct 2014
2. A scientific poster titled “**Stable isotope analysis for paddy rice in Sri Lanka: A possible method for geographic origin discrimination**” was presented at the International Symposium on Food Safety and Quality: Applications of Nuclear and Related Techniques, IAEA Headquarters, Vienna, Austria, 10–13 November 2014

## 9 Isotope Hydrology

Following projects on groundwater investigations using isotope techniques were commenced during 2014

- (1) Study on the natural water regimes in the Moragahakanda Reservoir area to collect the baseline information on the groundwater dynamics in the area was started. The data to be collected by the end of the project (after one year period) would be useful to understand the impact of the reservoir filled in future, to the downstream groundwater bodies. Also the data would be useful to investigate any seepage/leakage problems in future. This project is collaboratively done with the Mahaweli Authority of Sri Lanka.



*Fig.9.1: Preliminary site investigation in Moragahakanda Reservoir area*

- (2) The groundwater investigation in Murukkan basin, Mannar was started in collaboration with National Water Supply and Drainage Board. The objective of the study is to understand the mechanism of groundwater recharge and quality deterioration of the groundwater bodies using isotope and chemical tools. This project will be completed after collecting samples representing pre and post monsoon periods within one year time.

- (3) The isotope investigation of groundwater in a CKDu endemic zone; Dehiaththakandiya was started under the contract assigned by International Water Management institute (IWMI). The objective of the project is to differentiate the ground waters sources that caused CKDu. According to the outcome of the project, it is expected to expand the study in to other CKDu endemic zones in the North-Central province.



*Fig.9.2: Sample preservation in the field-Dehiaththakandiya*

- (4) The investigation of new water drips in Dambulla caves was started. Preliminary site investigations was completed and the project proposal to start an isotope/tracer investigation was submitted to the Department of Archeology. This project is conducted under the conservation program of historical paintings of Damulla caves by Department of Archeology.



*Fig.9.3: Site investigation- Dambulla rock*

- **The projects continued from 2013 :**

- (5) The groundwater investigation in Kalaoya and Ambanganga basins using isotope and chemical techniques was started in late 2013 but continued until middle of 2014. This is a pilot study to understand the groundwater dynamics in dry zone of Sri Lanka and conducted under the expansion of research studies in isotope hydrology after the establishment of analytical facilities for stable isotopes ( $^2\text{H}$  and  $^{18}\text{O}$ ) at the AEA.

- (6) The establishment of baseline data for isotopes in rain was started in Sep. 2012 and continued until April 2014. Under this project, rain water collecting setups were installed in 19 locations in dry zone and rain water was collected monthly in each station. Also the rain collecting station in Colombo is being operated since 2008.
- (7) Groundwater investigation in the area around Broadlands Hydroelectric Project was started in June 2013 in collaboration with CEB and continued until June 2014. Now the first phase of the study has been completed to understand the natural flow dynamics of the project area.
- (8) The investigation started in 2012 on groundwater dynamics and water quality deterioration in Jaffna peninsula using isotopes and chemical tools are being continued. The end user institute of this project is Water Resources Board and the project is operated under the IAEA/ RCA project RAS/7/022. An expert assistant was obtained from the IAEA to tune the evaluated data up.



*Fig.9.4: Sampling from a dug well - Jaffna*

- **The other activities**

- (9) Korea Atomic Energy Research Institute (KAERI) requested analytical facilities for tritium in water. The AEA accepted the request and now the Isotope Hydrology Section analyses water samples sending from Korea. Under the analytical facilities provided to KAERI, a considerable income to the AEA is expected. This is the first time of the history of the AEA providing its analytical services to overseas customers.
- (10) Ion chromatography (IC) system was installed in the Isotope hydrology laboratory to measure major ions in water. Ion concentrations of water samples provide supportive information for the isotope interpretation. Two scientists were trained for the operation of IC in Singapore.

## 10. Information Services

### 10.1 Awareness Programs conducted during the year 2014.

#### 10.1.1 Exhibitions

- (a) AEA participated in Dayata Kirula Exhibition held in Kuliypitiya in 17<sup>th</sup> – 25<sup>th</sup> February 2014.



*Fig.10.1: AEA Stall at Dayata Kirula Exhibition*

- (b) AEA participated in Science Week Exhibition 2014 organized by the Ministry of Technology and Research



*Fig.10.2: Part of the AEA Stall in Science Week Exhibition.*



*Fig.10.3: AEA staff participated Walk organized by Ministry of Technology & Research to mark the Science Week.*

- (c) AEA participated in several exhibitions.

- i Viharamahadevi Vidyalaya, Kiribathoda,
- ii Industrial Technology Institute,
- iii Renaissance-2014, St. Anthony's College, Kandy

#### 10.1.2. Seminars

- i Seminar on Nuclear Technology in Matale.
- ii Seminar at Sirimawo Bandaranaike Vidyalaya, Colombo
- iii Seminar on Nuclear Technology at St. Mariya Maha Vidyalaya, K'galle,
- iv AEA also participated in the Seminar organized by the Naththandiya Vidatha Sampath Centre

## Quizzes/ Speech Competition parallel to the “ Deyata Kirula 2014”

The Youth Nuclear Society of Sri Lanka (YNSS) organized a Quizzes/ Speech Competition in parallel to the “ Deyata Kirula 2014. During the Competition more than 70 students were felicitated with the Oxford Mathematical Instrument Box & Certificate. YNSS awarded certificates to the students of Wayamba University who assisted to conduct the competition.

YNSS exhibition stall provided information on “Electricity generation using Nuclear Power” with posters, leaflets & video display.



*Fig. 10.4: Lecture in Department of Applied Science, Wayamba University*



*Fig.10.5: Lecture in Kuliyaipitiya Central College, Kuliyaipitiya*

- Dissemination of knowledge to students, general public on Nuclear Science & Technology and Nuclear Power for Electricity generation through the various awareness programs was done.
- A Booklet on “How to generate the electricity” with 5000 copies was published.
- Arrangements and being made to produce a documentary video to explain the benefits of “Electricity generation using Nuclear Power”.

### More information:

YNSS Web site : <http://ynssl.wordpress.com/>

YNSS Facebook Group: [Youth Nuclear Society of Sri Lanka \(YNSS\)](#)

IYNC Web Site: <http://www.iync.org>

## Participation of AEA Officials in Foreign Seminars / Training Programmes / Workshops / Meetings January - December 2014

SSO – Senior Scientific Officer

SO – Scientific Officer

TA – Technical Assistant

SLGC – Sri Lanka Gamma Centre

RTC – Regional Training Course

ICD – International Cooperation Division

RPS – Radiation Processing Section

DD – Deputy Director

NLO – National Liaison Officer

LSD – Life Science Division

ITC – International Training Course

IC – International Conference

GC – General Conference

CQM – Corporate Quality Manager

CM – Consultancy Meeting

KM – Knowledge Management

RW – Regional Workshop

Se. No.	Name of the Officer	Post	Field of Training Courses / Seminars / Workshops / Meetings	Duration	Country	Sponsoring Institute
1	Mr. U.W. K. H. de Silva	SSO, RP & Regulations, AEA.	RTC on Organization and Competence of the Regulatory Body (RAS/9/062)	27.01.2014 31.01.2014	Manila, Philippines	IAEA
2	Ms. N.P.N. Karunaratne	SO, RP & Regulations, AEA.				
3	Mr. H.L. Anil Ranjith	Director, RP & Regulations, AEA.	Fourth Regional Review Meeting on Radioactive Source Security	11.02.2014 14.02.2014	Phuket, Thailand	IAEA
4	Mr. K.K.P.I.K. Kadadunna	SSO, RP & Regulations, AEA.				
5	Miss. Dulanjalee Madusha	SO, LSD, AEA.	RTC on Application of Stable Isotope and Trace Element Analyses for Food Traceability (RAS/5/062)	03.02.2014 14.02.2014	Manila, Philippines	IAEA
6	Mr. K.R.C. De Silva	SSO, RP Section, AEA.	IAEA/RCA, RTC on Advanced Radiation Grafting of Polymeric Matrices for Environment and Industrial Applications (RAS/1/014)	14.04.2014 18.04.2014	Ho Chi Ming City, Vietnam	IAEA
7	Mr. D.G.L. Wickramanayake	Director General, AEA.	RCA Working Group Meeting (WGM)	17.02.2014 21.02.2014	Vienna, Austria	IAEA
8	Mr. K.N.R. Fernando	SSO, RP & Regulations, AEA.	Annual Meeting of the International Network for Nuclear Security Training and Support Centres (NSSC Network)	19.02.2014 21.02.2014	Vienna, Austria	IAEA
9	Mr. E.A.N.V. Edirisinghe	SSO, IH Section, AEA.	IAEA/RCA Mid-Term Progress Review Meeting of the RCA Project RAS/7/022	30.06.2014 04.07.2014	Quezon City, Philippines	IAEA
10	Mr. U.W.K.H. De Silva	SSO, RP & Regulations, AEA.	IAEA International Conference on Advances in Nuclear Forensics.	07.07.2014 10.07.2014	Vienna, Austria	IAEA
11	Ms. A.B.C. Jayani	SO, NCNDT, AEA.	IAEA/RCA RTC on Industrial Process Gamma Tomography for Multi-Phase Process Investigation of Petrochemical Plants (RAS/1/012)	14.04.2014 18.04.2014	Kajang, Malaysia	IAEA
12	Dr. R.L. Wijewardena	Chairman, AEA.	7 <sup>th</sup> Meeting of Representatives of Competent Authorities Identified under the Early Notification and Assistance Conventions.	19.05.2014 23.05.2014	Vienna, Austria	IAEA
13	Mr. K.R.C. De Silva	SSO, RP Section, AEA.	RCA/UNDP RTC Basic and Advanced Knowledge and Hands-on Experiment on Electron Beam Applications for Value Addition to Food Products.	16.06.2014 20.06.2014	Jeongeup, Republic of Korea	RCARO

**Participation of AEA Officials in Foreign Seminars / Training Programmes / Workshops / Meetings January - December 2014**

Se. No.	Name of the Officer	Post	Field of Training Courses / Seminars / Workshops / Meetings	Duration	Country	Sponsoring Institute
14	Mrs. D.C.K.K. Dissanayake	SSO, LSD, AEA.	RCA/UNDP RTC in Basic and Advanced Knowledge and Hands-on Experiment on Electron Beam Applications for Advanced Material.	14.04.2014 25.04.2014	Jeongeup, Republic of Korea	RCA RO
15	Mr. R.M.M.P. Ranaweera	TA, RPSection, AEA				
16	Mr. T.H.S. Shantha	DD, RP & Regulations, AEA.	Regional Workshop on Occupational Radiation and ALARA in Waste Management.	14.07.2014 18.07.2014	Daejeon, Korea	IAEA
17	Mr. U.W.K.K. De Silva	SSO, RP & Regulations, AEA.	Mid-Term Project Coordination Meeting on Establishing Radioactive Waste Management Infrastructure.( RAS/9/071)	10.03.2014 14.03.2014	Bangkok, Thailand	IAEA
18	Mr. S.S.K. Kolambage	SSO, R P & Regulations, AEA	Interregional Train the Trainers Course on First Response to Radiological Emergencies.	17.03.2014 21.03.2014	Vienna, Austria	IAEA
19	Mr. T.H.S. Shantha	DD, R P & Regulations, AEA.	Sub regional Meeting to Familiarize South and South-East Asian States with the Nuclear Security Information Management System.	01.04.2014 04.04.2014	Selangor, Malaysia	IAEA
20	Mr. H.M.N.R. Bandara	DD, ICD, AEA.				
21	Dr. R.L. Wijayawardana	Chairman, AEA.	Training Course on Providing Decision Support for Nuclear Power Planning and Development.( RAS/2/016)	02.06.2014 13.06.2014	Tokyo, Japan	IAEA
22	Mr. H.G.P. Karunaratne	Director, ICD, AEA.	Meeting of TC National Liaison Officers (NLOs).( RAS/0/069)	05.05.2014 08.05.2014	Vienna, Austria	IAEA
23	Mr. H.M.N.R. Bandara	DD, ICD, AEA.				
24	Mr. U.W.K.H. De Silva	SSO,RP & Regulations AEA	Meeting on Measures to Enhance the Safe Transport of Radioactive Material and Sources.( RAS/9/067)	26.05.2014 30.05.2014	Selangor, Malaysia	IAEA
25	Mrs. S.S. Kulatunge	Director, SLGC, AEA.	Fukui International Meeting on HRD for Nuclear Energy in Asia.	19.03.2014 20.03.2014	Fukui, Japan	Govt. of Japan
26	Mr. V.A. Waduge	Director, LSD, AEA.	International Symposium on Food Safety and Quality : Applications of Nuclear and Related Techniques	10.11.2014 13.11.2014	Vienna, Austria	IAEA
27	Mr. K.K.P.I.K. Kadaunna	SSO, RP & Regulations, AEA.	Technical Meeting of the INES National Officers	13.10.2014 17.10.2014	Vienna, Austria.	IAEA
28	Mr. A. Jayalath	DD, RP Regulations,	Nuclear Security at a Major Public Event Lessons Learned from CHOGM	22.04.2014 25.04.2014	Vienna, Austria	IAEA
29	Mr. P.D. Mahakumura	DD, GSD, AEA.				
30	Mrs. H.M.N.L. Handagiripathira	SSO, LSD, AEA.	IAEA/RCA RTC on Establishment of Transfer Factors and Dose Assessment for Marine Organisms from Contaminants Released from Nuclear Activities (RAS/7/021)	11.08.2014 22.08.2014	Bangi, Malaysia	IAEA
31	Ms. Maheshika Kalpage	SO, LSD, AEA.	IAEA/RCA Workshop on the Establishment and Maintenance of the Databases of CSSI and FRN Data (RAS/5/055)	08.09.2014 12.09.2014	Kathmandu, Nepal	IAEA
32	Mr. H.M.N.R Bandara	DD, ICD, AEA.	1st Coordination Meeting and Workshop (RAS/5/069)	02.06.2014 06.06.2014	Vienna, Austria	IAEA
33	Mr. A. Jayalath	DD, RP & Regulations, AEA.	Regional Meeting to Review the Present Status of Asia and the Pacific Region's Preparedness for Radiological and/or Nuclear Emergencies (RAS/9/068)	16.06.2014 20.06.2014	Jakarta, Indonesia	IAEA

**Participation of AEA Officials in Foreign Seminars / Training Programmes / Workshops / Meetings January - December 2014**

Se. No.	Name of the Officer	Post	Field of Training Courses / Seminars / Workshops / Meetings	Duration	Country	Sponsoring Institute
34	Mr. S.S.K. Kolambage	SSO, RP & Regulations, AEA.	"Train-the-Trainers" RTC for Radiation Protection Officers.(RAS/9/066)	23.06.2014 27.06.2014	KL, Malaysia	IAEA
35	Mr. V.A. Waduge	Director, LSD, AEA	IAEA/RCA Workshop to Review Implementation of QMS Programme (RAS/7/021)	24.11.2014 28.11.2014	Cambodia	IAEA
36	Mr. V.A. Waduge	Director, LSD, AEA.	IAEA/RCA 3rd Annual Project Review Meeting (RAS/7/021)	07.07.2014 11.07.2014	Republic of Korea	IAEA
37	Mr. K.K.P.I.K. Kadadunna	SSO, RP & Regulations, AEA.	International Training Course on Introduction to Nuclear Forensics	20.05.2014 23.05.2014	Hague, Netherlands	IAEA
38	Ms. Dulanjalee Madusha	SO, LSD, AEA.	ITC on Introduction to Nuclear Forensics	20.05.2014	Hague, Netherlands	IAEA
39	Ms. Nirasha Rathnaweera	SO, GSD, AEA.		23.05.2014		
40	Mr. H.L Anil Ranjith	Director, RP & Regulations, AEA.	Technical Meeting on the Practical Application of the IAEA's Nuclear Security Recommendation and Guidelines for the Domestic and International Transport of Nuclear and other Radioactive Material.	10.06.2014 13.06.2014	Vienna, Austria	IAEA
41	Mr. H.M.N.R. Bandara	DD,ICD, AEA.	IC on HRD for Nuclear Power Programmes: Building and Sustaining Capacity.	12.05.2014 16.05.2014	Vienna, Austria	IAEA
42	Mr. C. Kasige	Director, GSD, AEA.	IC on Occupational Radiation Protection Enhancing the Protection of Workers-Gaps Challenges and Development.	01.12.2014 05.12.2014	Vienna, Austria	IAEA
43	Mr. P.D. Mahakumara	DD, GSD AEA.	Development of a Coordinated Research Project on Systems and Measures to Improve the Assessment of Internal Alarms from Radiation Detection Instruments.	10.06.2014 12.06.2014	Vienna, Austria	IAEA
44	Mrs. H.M.N.L. Handagiripathira	SSO, LSD, AEA.	IAEA/RCA RTC On the Effective Utilization of XRF Spectrometers for an Optimized and Accurate Air Particulate Matter (APM) Analysis.(RAS/7/023)	28.07.2014 01.08.2014	Lower Hutt, New Zealand	IAEA
45	Mr. T.M.R. Tennakoon	Director, NCNDT, AEA.	Final Progress Review Meeting. (RAS/1/013)	18.08.2014 22.08.2014	Hanoi, Vietnam	IAEA
46	Ms. G.M. Nadeera Hemamali	SO,GSD, AEA	22nd Women in Nuclear Global Annual Conference (WiN 2014) (INT/0/089)	22.10.2014 24.10.2014	Sydney, Australia	IAEA
47	Mr. K.N.R. Fernando	SSO, RP & Regulations, AEA	Regional Training Course on Radiation Protection in the Oil and Gas Industry (RAS/9/064)	19.10.2014 23.10.2014	Abu Dhabi, UAE.	IAEA
48	Mr. R.M.N Priyanga Ratnayake	SO, SLGC, Biyagama.	IAEA/RCA TC on Best Practices for the Use of Irradiation as a Phytosanitary Treatment.( RAS/5/057)	02.12.2014 05.12.2014	Manila, Philippines	IAEA
49	Mr. D.G.L. Wickramanayake	Director General, AEA.	43 <sup>rd</sup> RCA GCM and 58th IAEA General Conference.	19.09.2014 26.09.2014	Vienna, Austria	Govt. of Sri Lanka

**Participation of AEA Officials in Foreign Seminars / Training Programmes / Workshops / Meetings January - December 2014**

Se. No.	Name of the Officer	Post	Field of Training Courses / Seminars / Workshops / Meetings	Duration	Country	Sponsoring Institute
50	Mr. H.M.N.R. Bandara	DD,ICD, AEA.	58th IAEA General Conference	22.09.2014 26.09.2014	Vienna, Austria	Govt. of Sri Lanka
51	Mr. E.A.N.V. Edirisinghe	SSO, IH Section, AEA.	TC on Tritium Enrichment Data Processing and Reporting.	06.10.2014 10.10.2014	Vienna, Austria.	IAEA
52	Mr. E.D.V. Sampath	SO, SLGC, Biyagama.	RTC on the Security of Radioactive Sources.	22.09.2014 26.09.2014	Tokai, Japan	IAEA
53	Mr. K.N.R. Fernando	SSO, RP & Regulations, AEA.	Annual Working Group Meeting of the International Network for Nuclear Security Training and Support Centre's (NSSC)	18.08.2014 20.08.2014	Vienna, Austria	IAEA
54	Mr. T.H.S. Thenuwara	DD, RP & Regulations, AEA.	Regional Meeting on Status of Occupational Radiation Protection. (RAS/9/064)	13.10.2014 17.10.2014	Kathmandu, Nepal	IAEA
55	Mr. V.A. Waduge	Director, LSD, AEA.	11 <sup>th</sup> Coordination Meeting of the IAEA's Network Analytical Laboratories for the Measurement of Environmental Radioactive (ALMERA)	07.10.2014 10.10.2014	Vienna, Austria	IAEA
56	Mrs. H.M.N.L. Handagiripathira	SSO, LSD, AEA.	ALMERA Practical TC on Rapid Determination of Radio strontium in Milk using Crenkov and Scintillation Counting	03.11.2014 07.11.2014	Republic of Korea	IAEA
57	Mr. V.A. Waduge	Director, LSD, AEA.	IAEA/RCA Workshop on the Integration of Nuclear and Isotopic Data on Climate Change and Marine Ecosystem Regional Impacts for Dissemination to Stakeholders. (RAS/7/024)	08.12.2014 12.12.2014	Monaco	IAEA
58	Mrs. T.G.S. Sanjeevani	SO, LSD, AEA.	IAEA/RCA RTC on QA of Fingerprint and Source Apportionment of Air Particulate (APM) (RAS/7/023)	22.09.2014 26.09.2014	Seibersdorf, Austria	IAEA
59	Ms. Nirmali Karunaratne	SO, RP & Regulations, AEA.	Workshop on SARCON Methodology for Developing a Training Programme and KM System (RAS/9/061)	09.09.2014 12.09.2014	Vienna, Austria	IAEA
60	Mr. T.H.S. Shantha	DD,RP & Regulations AEA.	Workshop for National Coordinators of the IAEA's Radiation Safety Information System (RASIMS)	09.12.2014 12.12.2014	Vienna, Austria	IAEA
61	Mrs. A.K. Ratnayake	DD, RP Section, AEA.	2014 RCARO/KAERI Regional Workshop on Radiation Technology and its Application	13.10.2014 24.10.2014	Republic of Korea	RCARO/KAERI
62	Mr. H.J. Premakumara	SO, RP& Regulations, AEA.	RTC on Regulatory Enforcement (RAS/9/062)	12.10.2014 16.10.2014	Doha, Qatar	IAEA
63	Mr. H.L. Anil Ranjth	Director, RP & Regulations, AEA.	Radiological Security Response Workshop : Establishing Sustainable Training Programs for Regulators and Responders	20.10.2014 30.10.2014	Washington	GTRI
64	Mr. S.S.K. Kolambage	SSO, RP & Regulations, AEA.				

**Participation of AEA Officials in Foreign Seminars / Training Programmes / Workshops / Meetings January - December 2014**

<b>Se. No</b>	<b>Name of the Officer</b>	<b>Post</b>	<b>Field of Training Courses / Seminars / Workshops / Meetings</b>	<b>Duration</b>	<b>Country</b>	<b>Sponsoring Institute</b>
65	Ms. P.N.G. Rathnaweera	SO, GSD, AEA.	RC on Information and Computer Security Advanced Practices for Nuclear Security	10.11.2014 14.11.2014	Mumbai, India	IAEA
66	Mr. H.L. Anil Ranjith	Director, RP & Regulations, AEA.	CM on Nuclear Security Series Implementing Guide on Regaining Control over Nuclear and Other Radioactive Material out of Regulatory Control.	15.09.2014 19.09.2014	Vienna, Austria	IAEA
67	Mrs. A.K. Ratnayake	DD, RP Section, AEA.	Annual Review Meeting on Electron Beam Applications for Value Addition to Food and Industrial Products and Degradation of Environmental Pollutants	19.11.2014 20.11.2014	Yangon, Myanmar	RCARO
68	Mr. K.N.R. Fernando	SSO, RP & Regulations, AEA.	RW on the Establishment of Compliance Assurance Regime for Transport Safety of Radioactive Material(RAS/9/067)	08.12.2014 12.12.2014	Koror, Palau	IAEA
69	Mr. K.K.P.I. Kadadunna	SSO, RP & Regulations, AEA.	RW on Sharing Experience and Progress Made in Establishing a National Strategy for Education and Training.( RAS/9/066)	11.11.2014 13.11.2014	Malaysia	IAEA
70	Mr. H.L. Anil Ranjith	Director, RP & Regulations, AEA.	3rd Round of India - Bilateral Discussion with India Re. MOU on Civil Nuclear Cooperation	10.10.2014	India.	Govt. of Sri Lanka
71	Mr. P.D. Mahakumara	DD,GSD, AEA.	Regional Workshop on Computer Security for Nuclear Facilities	24.11.2014 28.11.2014	Daejeon, Korea	IAEA
72	Miss. V.S.I. Karunarathna	SO, GSD, AEA.				
73	Ms. I.A.N.D.P. Thilakarathna	SO, IH Section, AEA.	Training on Operation of Ion Chromotography System	04.11.2014 07.11.2014	Singapore	Heyleys Lifesciences (Pvt) Ltd.
74	Mrs. K.S.G.S. Priyadarshani	SO, IH Section, AEA.				
75	Dr. R.L. Wijewardena	Chairman,	Development of Bilateral Cooperation with IAEA Member State	11.03.2014 16.03.2014	India	Govt. of Sri Lanka
76	Mr. D.G.L. Wickramanayake	DG, AEA.				
77	Mr. E.A.N.V. Edirisinghe	SSO, IH Section,				

**AEA Officials for the Participation Foreign Seminars / Training Programmes / Workshops / Meetings Held in Sri Lanka January - December 2014**

Se. No.	Field of training courses/ Seminars/Workshops/ Meetings	Duration	Name of Officer	Post
01	Regional Workshop on Impact of Air Particulate matter (APM) Concentration and Sources on Cultural Heritage objects. (RAS/7/023)	07.07.2014 11.07.2014	Mrs. Shirani Senevirathne.	CQM, LSD, AEA.
			Ms. H.M.N.L. Handagiripathira	SSO,LSD, AEA
			Ms. T.S. Sanjeevani	SO, LSD, AEA
			Ms. T.N. Attanayake	TA, LSD, AEA.
			Ms. Dulanjalee Madusha	SSO, LSD, AEA.
			Ms. Savindya Jayawardene	SO, LSD, AEA
02	Regional Training Course on Disposal of Radioactive Waste (RAS/9/071).	30.06.2014 04.07.2014	Ms. Nirmali Karunarathne	SO, RP & Regulations, AEA
			Ms. Kaushalya Gamage	SO,RP & Regulations , AEA
			Mr. U.W.K.H. De Silva	SSO, RP & Regulations, AEA
03	IAEA/RCA Mid - Term Review Meeting of the Project (RAS/1/014) Supporting Radiation Processing for the Development of Advanced Grafted Materials for Industrial Applications and Environmental Preservation( RAS/1/014).	23.06.2014 27.06.2014	Mr. K.R.C. De Silva	SSO, RP Section, AEA
			Ms. W.P. Milani	SO,RP Section, AEA
			Ms. A.K. Rathnayake	DD, RP Section, AEA
04.	Regional Training Course on Multivariate Statistics and use of Online - Tool Box (RAS/5/062).		Ms. Maheshika Kalpage	SO, LSD, AEA
			Ms. T.G.S. Sanjeevani	SO, LSD, AEA
			Ms. Thiwanka Weerakkody	SO, LSD, AEA
			Ms. R.K.D. Madusha	SO, LSD, AEA

**Fellowship Trainings & Scientific Visits – AEA – January – December -2014**

No.	Name of the Person	Institute & Designation	Name of the Fellowship/ Scientific Visit	Project. No.	Country	Duration
1	Mr. S.M.S Pulle	SO, NCNDT, AEA.	Fellowship Training under the SRL/1007IAEA TC Programme 2013/2014 (Concrete Testing).	SRL/1/007	Singapore	17.03.2014 16.04.2014
2	Mr. C. Kasige	Director, GSD, AEA	Scientific Study Programme on Radiation Metrology and Dosimetry Calibration.	SRL/0/010	Malaysia	03.02.2014 14.02.2014
3	Ms. A.B.C. Jayani	SO, NCNDT, AEA.	<b>Scientific Visit</b> - Non - Destructive Testing (NDT) And Examination (NDE).	SRL/1/007	Germany	13.07.2014 27.07.2014
4	Mr. M.A.K. Jyathilaka	SSO, NCNDT, AEA.	<b>Fellowship</b> - Non - Destructive Testing (NDT) And Examination (NDE).	SRL/1/007	Germany	11.08.2014 04.11.2014
5	Mrs. S.S. Kulatunge	Director, SLGC, Biyagama.	Scientific Visit (SV) under the IAEA project SRL/1/008	SRL/1/008	Vietnam	01.12.2014 12.12.2014
6	Ms. R.K.D. Madusha	SO, LSD, AEA.	The EDXRF/TXRF Techniques at IAEA Laboratories.	SRL/0/010	Austria	01.12.2014 28.02.2015
7	Mr. V.A. Waduge	Director, LSD, AEA.	Scientific Visit to IAEA Marine Environment Studies Labs in Monaco.	SRL/7/005	Monaco	15.12.2014 19.12.2014

**Expert Assistance received from International Organizations**  
**January – December 2014**

	<b>Project No</b>	<b>Name and Nationality</b>	<b>Purpose</b>	<b>Contact Person &amp; Institution</b>	<b>Duration</b>
1	<b>SRL/1/007</b>	<b>Mr. Gursharan Sing</b> , Isotope Application Division, Department of Atomic Energy India.	To Provide Expert Advice on RT Level 3	Mr. T.M.R. Tennakoon, Director / Project Director, NCNDT	2014.01.06 2014.01.10
2	<b>SRL/2/008</b>	<b>Mr. Ali HAINOUN (Syrian)</b> Atomic Energy Commission of Syria	Conducting an expert mission on behalf of IAEA to support Ceylon Electricity Board to build advanced national capacity in using IAEA's tool MESSAGE in order to formulate optimal energy supply strategy for Sri Lanka.	Eng. (Mrs.) K. Jayasekara, DGM, (Transmission & Generation Planning), Ceylon Electricity Board	2014.01.20 2014.01.24
3	<b>SRL/2/008</b>	<b>Ms. Anjana DAS</b> IAEA.			
4	<b>SRL/2/008</b>	<b>Mr. Ghulam Rasul ATHAR</b> Pakistan Atomic Energy Commission (PAEC)			
5	<b>SRL/6/032</b>	<b>Mr. Soprani Sanzio (Italy)</b> , Senior Technologists from Comecer Company	To installation and check the new Lamina Floor Hood.	Dr. D.K.K. Nanayakkara, Consultant / Snr. Lecturer, NMU, Uni. of Peradeniya	2014.01.27 2014.01.31
6	<b>SRL/6/032</b>	<b>Mr. Robert Sandor Takacs (Hungary)</b> , Service Engineer from MEDISO Company, Hungary	To installation and check the new SPECT Gamma Camera	Dr. D.K.K. Nanayakkara, Consultant / Snr. Lecturer, NMU, Uni. of Peradeniya	2014.02.12 2014.02.22
7	<b>RAS/7/024</b>	<b>Dr. (Ms.) Karyne ROGERS</b> Institute of Geological & Nuclear Science, New Zealand.	To analysis of stable isotope data and interpretation of results of in climate change studies in Sri Lanka.	Mr. V.A. Waduge, Director, LS Division, AEA.	2014.04.07 2014.04.11
8	<b>SRL/5/045</b>	<b>Dr. Ms Fatma SARSU</b> , Joint FAO/IAEA Division, Department of Nuclear Sciences & Application, IAEA, Vienna, Austria	Objective of the mission is to discuss the technical issues regarding the project implementation and to recommend the follow up actions and revise the action plant according to the requirement of both counterpart institutions (DOA and AEA)	Mrs. D.C.K.K. Dissanayake, SSO, Life Sciences Division, AEA.	2014.07.15 2014.07.18

	<b>Project No</b>	<b>Name and Nationality</b>	<b>Purpose</b>	<b>Contact Person &amp; Institution</b>	<b>Duration</b>
9	<b>SRL/7/005</b>	<b>Dr. (Ms.) Karyne Rogers,</b> Senior Scientist, National Isotope Center, New Zealand	To assist national project counterparts in designing a sampling programme suitable for Marine Pollution.	Mr. V.A. Waduge, Director, Life Science Division	2014.09.29 2014.10.03
10	<b>SRL/7/005</b>	<b>Dr. Micheal Angelidis,</b> Technical Officer, IAEA.	Project planning meeting with project counterparts.	Mr. V.A. Waduge, Director, LS Division, AEA.	2014.05.27 2014.05.29
11	<b>SRL/0/010</b>	<b>Dr. Sagi Laszlo (Hungary),</b> Division of Radiation Transport and Waste Safety, IAEA	To review progress of previous IAEA projects related to TSA2.	Mr. C. Kasige, Director, GS Division, AEA	2014.09.01 2014.09.02
12	<b>SRL/0/010</b>	<b>Dr. Patrick Leo Sullivan (USA)</b>	To install the X-ray Calibration System and to provide first-line maintenance of the system.	Mr. C. Kasige, Director, GS Division, AEA	2014.11.17 2014.11.21
13	<b>SRL/0/010</b>	<b>Mr. Durim Kryeziu, Albanian</b>	To Installation of an Ultra Low Background Gamma Spectroscopy System (HPGe Detector System) and Software Training.	Mr. V.A. Waduge, Director, LS Division, AEA.	2014.11.25 2014.11.28
14	<b>SRL/0/010</b>	<b>Mr. Igor Gomola,</b> Technical Officer of Dosimetry Division, IAEA.	To review status of implementation of new calibration facilities and to establishment of extended services for calibration of diagnostic and radiation protection equipment to be offered by SSDL	Mr. C. Kasige, Director, GS Division, AEA	2014.12.15 2014.12.27
15	<b>RAS/7/022</b>	<b>Dr. Muhammad Azam Tasneem</b> Pakistan Atomic Energy Commission.	To assistance in data interpretation and field sampling	Mr. E.A.N.V. Edirisinghe, SSO, IH Section, AEA.	2014.12.08 2014.12.12
16	<b>PACT</b>	<b>Dr. Mohamed Ali Abdul Khader,</b> Department of Nuclear Medicine & PET Imaging, Malaysia	Provide expert services under PACT Mission	Dr. Suraj Perera, NCCP, Ministry of Health.	08.12.2014 10.12.2014
17	<b>RAS/7/022</b>	<b>Mr. Sandeep Shantaram Patil.</b> PerkinElmer-India	To Repair a Liquid Scintillation Counter (Manufactured by Perkinelmer, USA) Available at the AEA.	Mr. E.A.N.V. Edirisinghe, SSO, IH Section, AEA.	2014.12.15 2014.12.16

**Participation of Other Officials from other Institutions, except AEA in Foreign Seminars /  
Training Programmes / Workshops / Meetings  
January - December 2014**

**Trainings / Workshops / Meetings / Symposia / Conference**

The AEA had received opportunities for scientific community of the country to attend for overseas meetings, conferences, symposia, short term trainings and workshops. Many of these opportunities received from IAEA and some of them received from RCARO/Korea, MEXT/Japan, KOICA/Korea, ICTP/ Italy etc. The AEA has given 84 opportunities for scientists, engineers and researchers attached to following fields/national institutes in Sri Lanka to expose international environment related to their field.

<b>Institute</b>	<b>No. of Persons</b>
Universities	27
Ceylon Electricity Board	10
Department of Agriculture	7
Department of Export Agriculture	1
Geological Survey & Mines Bureau	1
Ceylon Petroleum Corporation	3
Hospitals	16
Industrial Technology Institute	4
Ministry of Defense	5
Sri Lanka Customs	2
Sri Lankan Airlines	1
Department of Attorney General	1
Disaster Management Centre	1
Department of Irrigation	1
Anti Malaria Campaign	1
Ministry of Science & Technology	1
Board Member (Attorney at Law)	2
<b>Total</b>	<b>84</b>

**Fellowship Trainings / Scientific Visits**

Fellowships awarded through the technical cooperation project for the manpower development of nuclear field of the country. Scientific visits are awarded to senior staff for the purpose of studying the development of nuclear science and technology, organizational aspects and functioning of special services, training programmes and schools in nuclear science, and observing research activities.

<b>Institute</b>	<b>No. of Persons</b>
Universities	2
Hospitals	3
<b>Total</b>	<b>5</b>

**Other Officials for the Participation IAEA Seminars / Training Programmes / Workshops /  
Meetings Held in Sri Lanka**

The AEA hosted six IAEA events (two meetings, three training courses and one workshop) in Sri Lanka during the year 2014. As these events were held in Sri Lanka, AEA was able to offer opportunities for 15 Sri Lankan scientists and researchers to train and exchange ideas with experts and scientists who came from various countries.

<b>Institute</b>	<b>No. of Persons</b>
Hospitals	5
Universities	5
Department of Museum	2
Postgraduate Institute of Archaeology	1
Department of Agriculture	1
Central Environmental Authority	1
<b>Total</b>	<b>15</b>

**FINANACIAL STATEMENTS  
2014**

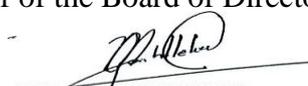
**ATOMIC ENERGY AUTHORITY**

**ATOMIC ENERGY AUTHORITY  
STATEMENT OF FINANCIAL POSITION  
AS AT DECEMBER 31-2014**

	Notes	2014 Rs.	2013 Rs.
Value in Rs.			
<b><u>ASSETS</u></b>			
<b><u>Current Assets</u></b>			
Cash and Cash equivalent	3	8,299,935	5,924,164
Receivables	4	36,428,666	49,832,988
Inventories	5	4,629,983	3,987,907
Prepayments	6	2,524,725	2,030,977
Other Current Assets	7	13,198,344	53,076,778
		65,081,653	114,852,814
<b><u>Non - Current Assets</u></b>			
Work In Progress	8	486,617,792	172,261,327
R & D On-Going Projects	9	10,877	312,431
Property, Plant & Equipment	10	213,826,901	145,876,358
Land & Building	11	173,620,727	175,344,554
Other Long Term Assets	12	0	9,490,246
Unusable Items	13	31,850	31,850
		<u>874,108,147</u>	<u>503,316,766</u>
		<b>939,189,800</b>	<b>618,169,580</b>
<b>Total Assets</b>			
<b><u>LIABILITIES</u></b>			
<b><u>Current Liabilities</u></b>			
Payable	14	(39,462,716)	(35,777,863)
<b><u>Non Current Liabilities</u></b>			
Retirement Benefit Obligations	15	(25,456,786)	(23,352,994)
		<u>(64,919,503)</u>	<u>(59,130,857)</u>
<b>Total Liabilities</b>			
		<b>(64,919,503)</b>	<b>(59,130,857)</b>
<b>Total Net Assets</b>		<b><u>874,270,297</u></b>	<b><u>559,038,723</u></b>
<b><u>NET ASSETS /EQUITY</u></b>			
<b><u>Capital &amp; Reserves</u></b>			
Government Grant - Capital	16 (i)	910,207,208	564,854,508
Capital Gain	16 (ii)	1,187,150	
Accumulated Fund	17	86,390,208	87,947,490
Deficit	18	(123,514,269)	(93,763,275)
		<u>874,270,297</u>	<u>559,038,723</u>
<b>Total Net Assets/Equity</b>		<b>874,270,297</b>	<b>559,038,723</b>

The Board of Directors is responsible for the preparation and presentation of these Financial Statements, the Accounting Policies and notes and integral part of these Financial Statements. Approved and signed for and on behalf of the Board of Directors of Atomic Energy Authority.

  
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Chairman

  
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Board Member

  
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Actg. Seniro Deputy Director  
Finance & Administration

**ATOMIC ENERGY AUTHORITY**  
**STATEMENT OF FINANCIAL PERFORMANCE**  
**FOR THE YEAR ENDED DECEMBER 31 -2014**

		<b>Value in Rs.</b>	
	<b>Notes</b>	<b>2014 Rs.</b>	<b>2013 Rs.</b>
Revenue	<b>19</b>	179,984,025	130,397,910
Other Revenue	<b>20</b>	<u>2,202,757</u>	<u>1,151,057</u>
<b>Total Revenue</b>		182,186,782	131,548,967
Wages, Salaries and Employee Benefits	<b>21</b>	(76,144,897)	(68,378,920)
Supplies & Consumable Used	<b>22</b>	(10,501,679)	(7,994,541)
Depreciation & Amortization Expenditure	<b>23</b>	(37,514,119)	(33,828,656)
Impairment of property, plant & equipment	<b>24</b>	(5,284,785)	(5,581,887)
Other Recurrent Expenditure	<b>25</b>	(78,301,879)	(30,916,541)
Finance cost	<b>26</b>	(36,200)	(25,367)
<b>Total Expenditure</b>		<u>(207,783,560)</u>	<u>(146,725,912)</u>
<b>Deficit for the year</b>		<u><b>(25,596,777)</b></u>	<u><b>(15,176,945)</b></u>

  
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 Chairman

  
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 Board Member

  
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 Actg. Seniro Deputy Director  
 Finance & Administration

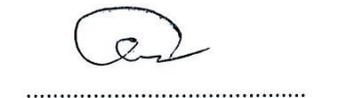
**ATOMIC ENERGY AUTHORITY**  
**Statement of Changers in Net Assets /Equity**  
**For the year ended December 31 2014**

Value in Rs.

	Capital Grant	Capital Gain	Accumulated Fund	Accumulated Surp/Deficit	Total
<b>Balance at 31- December 2012</b>	<b>385,204,145</b>		<b>91,692,087</b>	<b>(71,542,207)</b>	405,354,025
Changes in accounting policy					-
<b>Restated Balance</b>	<b>385,204,145</b>		<b>91,692,087</b>	<b>(71,542,207)</b>	<b>405,354,025</b>
Received for the Year	203,755,638		5,845,478		209,601,116
Adjustments Made -	(24,105,275)		(9,590,075)	(7,044,125)	(40,739,475)
Surplus/ Deficit for the Year				(15,176,943)	(15,176,943)
<b>Balance at 31- December 2013</b>	<b><u>564,854,508</u></b>		<b><u>87,947,490</u></b>	<b><u>(93,763,275)</u></b>	<b><u>559,038,723</u></b>
Adjustments made for O/B	-		5,175,098	815,861	5,990,959
<b>Restated Balance</b>	<b>564,854,508</b>		<b>93,122,588</b>	<b>(92,947,414)</b>	<b>565,029,682</b>
Received for the Year	371,675,180	1,187,150	4,360,776		377,223,106
Adjustments Made for C/Y	(26,322,480)		(11,093,156)	(4,970,078)	(42,385,713)
Surplus/ Deficit for the Year				(25,596,777)	(25,596,777)
<b>Balance at 31- December 2014</b>	<b><u>910,207,208</u></b>	<b><u>1,187,150</u></b>	<b><u>86,390,208</u></b>	<b><u>(123,514,269)</u></b>	<b><u>874,270,297</u></b>

  
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 Chairman

  
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 Board Member

  
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 Actg. Seniro Deputy Director  
 Finance & Administration

**ATOMIC ENERGY AUTHORITY**

**Cash Flow statement for the Year Ended 31-December 2014**

Value in Rs.

	<b>2014</b>	<b>2013</b>
<b><u>CASH FLOW FROM OPERATING ACTIVITIES</u></b>		
<b><u>Receipts</u></b>		
Sales of goods and services	127,386,000	71,738,000
Receipt of Recurrent Grant	41,500,000	43,000,000
Receipt of Loan Interest	204,000	258,757
<b><u>Payments</u></b>		
Employee Cost	(84,692,000)	(63,446,000)
Suppliers	(87,151,000)	(53,817,835)
Other Payments	(8,378,000)	(313,000)
<b>Net Cash Flow from Operating Activities</b>	<b>(11,131,000)</b>	<b>(2,580,078)</b>
<b><u>CASH FLOW FROM INVESTING ACTIVITIES</u></b>		
Receipt of Capital Grant	366,980,000	201,964,000
Acquisition of Plant, Machinery & Equipment	(353,204,000)	(194,009,500)
Computer (purchase out of Income)		(307,500)
Sale of Vehicle		
Funds Transfer to the Treasury		
<b>Net Cash Flow from Investing Activities</b>	<b>13,776,000</b>	<b>7,647,000</b>
<b><u>CASH FLOW FROM FINANCIAL ACTIVITIES</u></b>		
Recovery of Loans	2,739,000	3,343,243
Payment of Loan	(2,983,000)	(3,008,000)
<b>Net Cash Flow from Financial Activities</b>	<b>(244,000)</b>	<b>335,243</b>
<b>Net Increase/Decrease in Cash &amp; Cash equivalent</b>	<b>2,401,000</b>	<b>5,402,165</b>
<b>Cash &amp; Cash equivalent at the beginning of the year</b>	<b>5,924,164</b>	<b>512,524</b>
Cash at Bank	5,898,345	496,180
Stamp Stock	25,819	16,344
<b>Cash &amp; Cash equivalent at the end of the year</b>	<b>8,300,545</b>	<b>5,924,164</b>
Cash at Bank	8,299,345	5,898,345
Stamp Stock	1,200	25,819

  
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 Chairman

  
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 Board Member

  
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 Actg. Seniro Deputy Director  
 Finance & Administration

# ATOMIC ENERGY AUTHORITY

## Notes to the Accounts

### 1 SIGNIFICANT ACCOUNTING POLICIES

#### 1.1 General

##### 1.1.1 Basis of Preparation

The Financial statements comply with Sri Lanka Public Sector Accounting Standards (SLPSAS) and Sri Lanka Accounting Standards (LKAS) as when necessary, for the accrual basis of accounting. The measurement base applied is historical cost adjusted for revaluation of assets. The financial accounts have been prepared on a going concern basis and the accounting policies have been applied consistently through the period.

The new Atomic Energy Bill was drafted and it was approved by the Parliament of Democratic Socialist Republic of Sri Lanka on 04<sup>th</sup> November 2014. The new Act established two new independent entities as “Sri Lanka Atomic Energy Regulatory Council” (Council) and the “Sri Lanka Atomic Energy Board” (Board) which came into operation on 1st January 2015. While the Council acts as the regulatory authority for ensuring radiation safety, nuclear security and safeguards, the Board carries out development activities and services related to nuclear technology. The new Act repealed the Atomic Energy Authority Act No.19 of 1969 on 1st January 2015.

##### 1.1.2. Comparative Information

The Authority has constantly applied the accounting practices with those used in the previous year’s figures and phrases have been re arranged where ever necessary to confirm to the current year’s presentation.

##### 1.1.3.Changes in Accounting Policies

Accounting policies adopted are constant with these in the previous financial year.

##### 1.1.4.Foreign Currency Transactions

All non-monitory items received as donations are reported at the rates prevailing at the time the transactions were occurred.

##### 1.1.5.Events Occurring after the Balance Sheet Date

All material events occurred after the Balance Sheet date has been considered and where appropriate adjustments or disclosures have been made in the financial statements.

##### 1.1.6 .Taxes

Authority used to collect VAT which was applicable for the period from their customers. Policy on VAT applicable to the Authority was changed with effect from the year 2008. Accordingly, the allowable in put tax component was calculated considering the ratio between internally generated income and the grants received from the Treasury. Apart from this, the Nation Building Tax, and Income Tax are paid to the Department of Inland Revenue in compliance with the prevailing rules.

## 1.2 ASSETS AND BASIS OF THEIR VALUATION

Assets classified as current assets in the Balance sheet are cash and those which are expected to realize in cash, during the normal operating cycle of the Authority's business or within one year from the Balance sheet date.

Assets other than current assets (non-current assets) are those which the Authority intends to hold beyond a period of one year from the Balance sheet date.

### 1.2.1 Infrastructure, Plant & Equipment

The Infrastructure, Plant & Equipment are recorded at cost or revaluation less accumulated depreciation. Cost of tangible Property, Plant & Equipment is shown at cost of acquisition or construction together with any incidental expenditure incurred in bringing the asset to its working condition for its intended use. Arrangements have been made to re value the equipment which are fully depreciated but are in working condition, with the Department of Valuation.

Funds for acquisition of non-current assets are provided mainly by the General Treasury and International Atomic Energy Agency (IAEA).

### 1.2.2 Depreciation/Amortization

Provision for depreciation is calculated using the straight line method on the cost or revaluation of all Property Plant & Equipment, in order to write-off such amount over the estimated useful economic life of such assets.

The Authority revised the accounting policy on depreciation of fixed assets with effect from 2009. Earlier the Authority applied 10% per annum as the rate of depreciation of fixed assets other than the Building and Motor vehicles. The Board of Management has decided to change the depreciation rate only for the Electronic equipment, as 25% and 33 1/3% for Computers, Software & Accessories considering their useful life.

The rate of depreciation used on a straight line method as follows.

Buildings	Over 50 years	02 %
Boundary Wall	Over 10 years	10 %
Office Equipment, Furniture & Fittings	Over 10 years	10 %
Electronic Equipment	Over 4 years	25 %
Computers, Software & Accessories	Over 3 years	33 1/3%
Motor Vehicles	Over 4 years	25 %
Scientific Equipment	Over 10 years	10 %
Library Books	Over 10 years	10 %
Sports Equipment	Over 10 years	10 %

### Lease Hold Asset

The land held under long term lease is amortized over the period under lease. Atomic Energy Authority (AEA) had entered in to a 99 year lease agreement with Urban Development Authority (UDA) for the land situated at 460, Baseline Road, Orugodawatta, Wellampitiya. In 1996 Atomic Energy Authority (AEA) had paid Rs. 9,750,000/- on behalf of acquiring this lease hold property. This transaction has been identified as an operating lease and shown in the Balance Sheet accordingly.

### **1.2.3 Inventories -Basis of valuation**

The cost of each category of inventory is determined on the following basis.  
Stocks of consumables - At actual cost on first in first out method (FIFO)

### **1.2.4 Trade & Other Receivables**

Trade debtors and other receivables are stated at their cost and amounts estimated to realize, inclusive of provisions for bad & doubtful debts. Atomic Energy Authority review the status of debtor balances periodically and make a 100% provision for bad debts outstanding over five (5) and written off the debtor balances less than Rs. 10,000., with the approval of Board of Management.

### **1.2.5 Cash & Cash Equivalents**

Cash flow statement has been prepared by using the direct method. Cash & Cash equivalents are defined as cash at Bank and stamp stock which are easily convertible.

## **1.3 LIABILITIES AND PROVISIONS**

### **1.3.1 Retirement Benefits to Employees**

#### **Defined Benefit Plan**

AEA policy on contribution to EPF was changed from 12% to 15% with effect from 26-05-2011 (which is the date of COPE Committee meeting) at the Board Meeting held on 07-12-2012. and the Authority's contribution for Employee's trust fund is 3% as per the ETF Act. Gratuity provision is made according to the Gratuity Act No.12 of 1983. The liability for payment to an employee arises only after the completion of 5 years continued services. The gratuity liability is not externally funded but in order to meet this liability, a provision is carried forward in the Balance sheet, based on half month's salary and cost of living of the last month and of the financial year of all employees who completed one year of service and the total liability is calculated on the basis of half month initial salary + half months cost of living as at 31<sup>st</sup> December of each employee.

#### **TRADE AND OTHER PAYABLE**

Trade and other payable are stated at their cost excluding VAT.

### **1.3.3 Capital Commitments and Contingent Liabilities**

All material capital commitments and contingent liabilities of the Authority are disclosed in the respective notes in the accounts.

#### **a.i. Provisions**

Provisions are recognized as when the Authority has a present obligation (Legal or constructive) as a result of a past event, where it is probable that an outflow of resources embodying economic benefits will be required to settled the obligation and a reliable estimate can be made of the amount of the obligation.

## **1.4 DIFFERED INCOME**

### **1.4.1 Grant and Donations**

Grant and Donations are credited to the income statement over the periods necessary to match them with related cost, which they are intended to be compensated in a systematic basis. Grants related to Property Plant & Equipment, including non-monitory grants at fair value is differed in the balance sheet and credited to the Income Statement over the useful life of the related assets and their remaining lease period as per the internally accepted policy.

## **Government Grant**

Government grant for recurrent & capital has been identified separately. Recurrent grant is the major income source & credited to the income and Expenditure statement while grant for capital expenditure is taken to accumulated fund with due adjustment for depreciation component of fixed assets Capital grant received from other sources are shown as differed income under non-current liability.

### **1.5. INCOME STATEMENT**

Income & Expenditure Accounts are prepared in accrual basis.

#### **1.5.1 Revenue and Expenditure Recognition**

Major source of revenue is internally generated income from the services.

##### **1.5.1.1. Income**

Income received from operating activities was comprised with net income of Irradiator Service, Regulatory Services, Radiation Processing services, NDT Inspections & Training, Nuclear Instrumentation & Calibrations, Interest on Loans, Non Refundable deposits, Sundry income, damaged stock disposal income, Gain on disposal of assets based on accrual concept & excluding VAT.

##### **1.5.1.2 . Expenditure**

Expenses are recognized in the income statement on the basis of a direct association between the cost incurred and the earning of the specific items of income where appropriate. All expenditure incurred in running of the Authority and depreciation of the property, plant & equipment has been charged to income in arriving the income over expenditure

#### **1.5.2 Research & Development**

Costing the research projects has been considered direct material & other expenses and charged as recurrent expenditure.

## **2. CORPORATE INFORMATION**

Atomic Energy Authority (AEA) was established by the Atomic Energy Act No.19 of 1969. The AEA is located at No. 60/460, Orugodawatte, Wellampitiya. The new Act No. 40 of 2014 repealed the Atomic Energy Authority (AEA) Act, with effect from 1<sup>st</sup> January 2015.

The new Act established two independent entities as “Sri Lanka Atomic Energy Regulatory Council” (Council) and the “Sri Lanka Atomic Energy Board” (Board) which came into operation on 1st January 2015.

Sri Lanka Atomic Energy Board will be located at the same place and Sri Lanka Atomic Energy Regulatory Council will be located at the Non Destructive Center at Bulugaha Junction at Kalaniya.

**Notes to the Accounts**  
**As at 31-December 2014**

	<b>2014</b>	<b>2013</b>
	<b>Rs.</b>	<b>Rs.</b>
<b><u>Current Assets</u></b>		
<b>3</b>		
<b>Cash at Bank</b>		
Ac no:071-1-001-1-3320739	8,298,735	5,898,345
Stamp Stock	1,200	25,819
Balance at the end of the year	<b>8,299,935</b>	<b>5,924,164</b>
<b>4</b>		
<b>Receivables</b>	<b>36,428,666</b>	<b>49,832,988</b>
<b><u>Trade Receivables</u></b>		
<b>4.1 Debtors</b>		
Trade Debtors -Related to Current Year	2,639,296	2,248,678
Trade Debtors -Related to Previous Years	2,164,183	2,142,742
<b>4.2</b> Provision for Doubtful Debts	(497,057)	(909,576)
Net Trade Debtors Amount as at 31-12-2013	<b>4,306,422</b>	<b>3,481,844</b>
<b><u>Staff &amp; Non Trade Receivables</u></b>		
<b>4.3</b> Staff Debtors	23,177	67,572
<b>4.4</b> Other debtors	639,520	476,180
Ministry of Science & Technology (MGIF Project)	25,954,002	39,773,419
	<b>26,616,699</b>	<b>40,317,171</b>
<b>4.5 Advances &amp; Loans</b>		
Motor Cycle Loan	32,499	168,332
Special Distress Loan	0	3,334
Cycle Loan	5,813	20,063
Festival Advance	78,700	88,200
Distress Loan	4,932,809	5,398,321
Advance to Employee	514	514
Balance at the end of the year	<b>5,050,335</b>	<b>5,678,764</b>
<b>4.6 Refundable Deposits (Receivable)</b>	455,210	<b>355,210</b>
<b>5 Inventories</b>		
Chemical Stock	1,878,859	2,090,373
Office & Laboratory Consumable & Vehicle Spare Stock	1,388,483	1,415,606
Laboratory Consumable stocks Identified as obsolete	397,758	397,758
Provision for Lab Consu. stocks Identified as obsolete	(397,758)	(397,758)
IAEA Closing stocks (Donation))	0	15,344
Closing stock -Radiation Processing Section	341,554	
Closing Stock M G I F	1,021,087	466,584
Balance at the end of the year	<b>4,629,983</b>	<b>3,987,907</b>

## Notes to the Accounts

As at 31-December 2014

	2014	2013
	Rs.	Rs.
<b>6</b>	<b>Prepayments</b>	
	Cooling Services (PVT) Ltd.	78,500
	Access International	15,634.00
	Sri Lanka Insurance Corporation	2,220,455
	Metropolitan Communication Ltd	8,028
	Motor Traffic Commissioner	14,833
	Johan Keels office Automation	7,485
	Metropolitan Office (Pvt) Ltd	4,967
	S.L.A.B	43,388
	Brown & Co.	4,703
	Chairman	36,450
	Executive Director	27,540
	National Insurance Trust Fund	54,284
	Soar Technology	80,203
	H& L Electricles	14,084.00
	Business Machines Co	7,833
	Kelaniya pradeshiya sabha	45
	Balance at the end of the year	<b>2,524,725</b>
<b>7</b>	<b>Other Current Assets</b>	<b>53,076,778</b>
7.1	With holding Tax Receivable	2,785
7.2	Income Tax Advance	17,158
7.3	VAT Receivable	1,065,087
7.4	I.A.E.A Receivable	0
7.5	Advance payment for scientific Equipment	9,607,603
7.6	Mobilization Advance paid to SLLRDC & NBRO	0
7.7	M G I F House Rent Advance	208,667
7.8	Director General of Customs	1,776,350
7.9	<u>Purchasing Advance</u>	
	Balance at the beginning of the year	624,142
	Adjustments made for prior year	
	Restated Opening Balance	624,142
	Settlements	(26,987,280)
	Purchasing Advance for the year	27,092,499
	Balance at the end of the year	<b>729,361</b>
<b>8</b>	<b>Work-In-Progress</b>	
	Water Proofing work	0
	Construction of NCNDT Payments to the SLLRDC & NBRO	435,795,723
	Accounting Softwaere Package	720,000
	A E A malabe Project	50,102,069
	Balance at the end of the year	<b>486,617,792</b>

Notes to the Accounts		2014	2013
As at 31-December 2014		Rs.	Rs.
<b>9</b>	<b>Research &amp; Development On Going Projects</b>		
	Radiation process Natural polimers for Agriculture& enviromental Application (R A S/8/1090)	10,877	<u>312,431</u>
	Balance at the end of the year	<u><b>10,877</b></u>	<u><b>312,431</b></u>
<b>10</b>	<b><u>Property, Plant &amp; Equipment</u></b>		
	Property Plant & Equipment	<b>213,826,901</b>	145,876,359
<b>11</b>	Land & Building	<u>173,620,727</u>	<u>175,344,554</u>
	Balance at the end of the year	<u><b>387,447,628</b></u>	<u><b>321,220,913</b></u>
<b>12</b>	<b>Other Long Term Assets</b>		
	Scientific Equipment received for MGIF project	0	<u>9,417,746</u>
	Developing National Capability to Respond radiological Emergencies		<u>72,500</u>
		<u><b>0</b></u>	<u><b>9,490,246</b></u>
<b>13</b>	<b>Unusable Items</b>		
	Unusable Items	31,850	31,850
		<u><b>31,850</b></u>	<u><b>31,850</b></u>
<b>14</b>	<b>Trade Payable</b>	<b>39,462,716</b>	<b>35,777,863</b>
	Creditors & Accruals Opening Balance	33,626,068	14,992,506
	Prior Year Adjustment	-	-
	Re-stated Opening Balance	33,626,068	14,992,506
	Settlement during the year	(32,222,834)	(13,014,186)
	Provision for the year	33,550,955	31,647,748
	Vat Payable from Debtors	433,364	
	Balance at the end of the year	<u><b>35,387,554</b></u>	<u><b>33,626,068</b></u>

**Notes to the Accounts**
**As at 31-December 2014**

	<b>2014</b>	<b>2013</b>
	<b>Rs.</b>	<b>Rs.</b>
Advance Income for License fees	496,801	87,254
Advance Income for Radiation Protection	147,483	4,428
Advance Income for Food Testing	1,270	1,270
Advance Income from N D T Inspection	92,199	
Over Income	53,207	52,093
Advance received for CKD project	816,792	824,602
Advance received for I A E A project	1,683,076	605,459
Sundry Creditors	19,838	19,838
E PF control	8,310	1,391
Advance received for C K D U Project	330,172	
E T F control	865	167
VAT Payable	0	166,943
Advance payment received for Rent – Polipto Co.	245,250	245,250
Heyley Life Science Pvt Ltd	0	
Photon Technologies Pvt Ltd	0	
Refundable deposit Payable	179,900	143,100
<b>15 Retirement Benefit Obligations</b>		
Balance at the beginning of the year	23,352,993	21,541,848
Cash Paid	(1,127,256)	(821,385)
Add : Provision for the year	3,231,048	2,632,530
Balance at the end of the year	<b>25,456,785</b>	<b>23,352,993</b>
<b><u>Capital &amp; Reserves</u></b>		
<b>16 (i) Capital Grant</b>		
Current Assets	564,854,508	385,204,145
Prior Year Adjustment for Grant Received		
<b>Opening Balance after the LKAS Adjustments</b>	564,854,508	385,204,145
Capital Grant Received for the year	366,980,000	201,964,647
Grant Received for Clearing of Donation	4,695,180	1,790,991
Application of LKAS 20 relevant to current year	(26,322,480)	(24,105,275)
Balance at the end of the year	<b>910,207,208</b>	<b>564,854,508</b>
<b>(ii) Capital Gain</b>	1,187,150	
Capital Gain Received for the Year	<b>1,187,150</b>	
<b>17 Accumulated Fund</b>		
Balance at the beginning of the year	87,947,490	91,692,087
Prior Year adjustments	5,175,098	
<b>Opening Balance after the LKAS Adjustments</b>	93,122,588	<b>91,692,087</b>
Application of LKAS20 relevant to current year	(11,093,156)	(9,590,075)
Donations Received for the Year	4,360,776	5,845,478
Balance at the end of the year	<b>86,390,208</b>	<b>87,947,490</b>
<b>18 Deficit</b>		
Balance at the beginning of the year	(93,763,275)	(71,542,207)
Prior Year adjustments	815,861	
<b>Re stated Opening balance</b>	(92,947,414)	(71,542,207)
Adjustments A/C	(4,970,078)	(7,044,125)
Surplus/Deficit for the year	(25,596,777)	(15,176,943)
Balance at the end of the year	<b>(123,514,269)</b>	<b>(93,763,275)</b>

**Notes to the Accounts**  
**As at 31-December 2014**

	<b>2014</b>	<b>2013</b>
	<b>Rs.</b>	<b>Rs.</b>
<b>19 Revenue</b>		
Government Grant- Recurrent	41,500,000	43,069,794
Differed Revenue	37,415,636	33,695,350
Food Testing	37,300,157	35,185,948
Food Testing (HPGE Method)	101,370	141,340
NDT Inspection Services	5,860,619	4,881,407
Licensee Fees	4,107,681	3,834,966
Radiation Protection Services	2,325,120	4,552,533
Nuclear Analytical	302,475	29,430
General Scientific Services	1,642,528	1,712,934
NDT Training Courses	4,664,363	3,078,340
Amendment Charges	11,085	15,805
stable Isotope Analysis	611,378	86,670
N D T Qualification/certification	133,500	
M G I F	44,008,113	
Radiation Processing Services	0	113,393
	<b>179,984,025</b>	<b>130,397,910</b>
<b>20 Other Revenue</b>		
Interest on Loan	204,096	258,757
Miscellaneous Income	98,699	238,300
Rental Income	654,000	654,000
Consumable received as Donation	212,900	
Disposal of assets	-	
Reimbursement from MOTR for the exhibit Cost	1,033,062	-
	<b>2,202,757</b>	<b>1,151,057</b>
<b>21 Wages, Salaries and Employee Benefits</b>		
Salaries	36,966,033	36,331,162
NCNDT Salary	284,640	571,320
Employees Provident Fund	6,635,067	5,455,959
NCNDT EPF	42,696	85,398
Employees Trust Fund	1,326,834	1,092,424
NCNDT ETF	8,539	17,140
Additional Allowances	7,605,684	6,510,410
Interim Allowances	34,308	34,308
Over Time& Holiday payments	1,053,694	1,078,233
Gratuity- for the Year	3,266,721	2,651,853
Encasement of Medical leave	2,815,869	2,024,616
Incentive	1,705,364	1,033,782
Cost of living	12,180,509	9,889,904
NCNDT COL	0	58,071
Trainee Allowance	119,500	62,000
Fuel Allowance	734,303	578,940
Research Allowance	76,766	
Other Allowance	808,370	
Consultant Allowance	480,000	903,400
	<b>76,144,897</b>	<b>68,378,920</b>

<b>Notes to the Accounts</b>		<b>2014</b>	<b>2013</b>
<b>As at 31-December 2014</b>		<b>Rs.</b>	<b>Rs.</b>
<b>22</b>	<b>Supplies &amp; Consumable Used</b>		
	Fuel & lubricants	1,606,722	1,418,636
	Office Consumables & Stationary	2,891,115	2,640,010
	Laboratory Consumables	2,800,661	3,666,185
	Laboratory Consumable Donation	2,921,181	70,711
	Uniforms	281,999	199,001
		<b>10,501,679</b>	<b>7,994,541</b>
<b>23</b>	<b>Depreciation /Amortization of Asset</b>		
	Amortization (Lease Rent)	98,485	98,485
	Depreciation on Acquisition of Assets	26,322,478	24,140,096
	Depreciation on IAEA Donations	11,093,156	9,590,075
		<b>37,514,119</b>	<b>33,828,656</b>
<b>24</b>	<b>Impairment of property, plant &amp; equipment</b>		
	Maintenance of Office Building	1,488,099	2,310,764
	Service & Repairs of Equipment	1,910,953	1,329,007
	Maintenance of Motor vehicle	1,885,733	1,942,116
		<b>5,284,785</b>	<b>5,581,887</b>
<b>25</b>	<b>Other Recurrent Expenditure</b>		
	Remuneration for Authority Memb.	337,600	381,030
	Training Programme ,Seminars	1,136,165	2,759,601
	Staff Local Training Programme	1,304,567	824,315
	I A E A Work Shop	106,900	
	Exhibition	2,141,643	1,031,834
	Subs. fees for Local and Foreign Membership	2,000	6,000
	Incidental Expenses for Scientist	265,096	321,673
	Entertainment	107,214	136,489
	Advertisement & publicity	500,900	1,256,113
	Subscript. for Newspapers	40,500	40,640
	Printing & Publications	464,033	247,365
	Welfare Services	587,298	267,351
	Audit Fees	200,000	225,000
	Miscellaneous Expenses	965,167	177,234
	Payment for N.D.T Training Course	1,224,113	865,807
	N D T certification	4,036	
	Payment for Radiation Protection	441,860	305,105
	Payment for Inspection	980,537	741,612
	Payment for Life Science Division	595,350	577,580
	Payment for General Scientific Division	17,370	47,365
	Payment for Radiation Processing Division	7,378	1,838
	Research & Development Projects	585,043	241,616
	Agriculture project	12,880	201,096
	Stamp Duty	9,275	7,375
	Surchges	14,767	
	Nation Building Tax	1,645,512	768,671
	Doubtful Debtors	0	76768
	S L G C Operating Expenses	46,967,913	

**Notes to the Accounts**  
**As at 31-December 2014**

	<b>2014</b>	<b>2013</b>
	<b>Rs.</b>	<b>Rs.</b>
cont.....	60,665,115	11,509,478
Loss on disposal of unusable assets	63,181	1,046,295
Office Traveling	159,443	176,787
RCA Meeting	0	230,099
IAEA General Conference	1,210,496	1,291,093
Traveling for Authority Members	59,745	63,183
Clearing charges	111,897	109,691
Electricity	5,833,274	5,545,005
Water	292,970	325,427
Telephone	871,634	730,193
Telex , Fax & E-Mail	316,872	320,475
Postage	324,183	273,369
Security	2,936,625	3,008,320
Insurance	3,127,038	4,054,250
Transportation	1,256,110	785,916
Rates	324,000	324,000
Legal Expenses	180,228	459,550
Ground Rent	102	102
Y N S S Project	10,500	56,698
Radiative Monitoring Programme	164,880	160,259
Water Resource Management	0	46,504
Developing National Capability to Respond radiological Emergencies	167,933	24,252
MIPA Project	5,890	37,681
Air Pollution Project	14,569	15,781
Improving Soil Fertility Land Productivity	28,104	121,041
Istope Hydrology Divisional	94,668	175,355
Broadlan Hydropower Project	82,422	25,736
	<b><u>78,301,879</u></b>	<b><u>30,916,540</u></b>

**26 Finance cost**

Bank Charges	36,200	25,367
	<b><u>36,200</u></b>	<b><u>25,367</u></b>

**Property Plant & Equipment – Note No 10****Tangible Assets Note**

Lease Hold Assets	Note- 10.1	Life of the Asset	01/01/2014	Adjustment Made	Re-stated Opening Bal.	Additions/ Transfers in	Disposal	Disp/Tran out Adjust	Balance as at 31.12.2014
Land		99	8,042,927		8,042,927				8,042,927
			<b>8,042,927</b>			-		-	<b>8,042,927</b>
<b>Owned Assets Note- 10.2</b>									
<b>Land &amp; Building</b>									
NDTC-Land			90,884,994		90,884,994				90,884,994
Office Building		50	96,962,307		96,962,307	316,830			97,279,137
			<b>187,847,301</b>		<b>187,847,301</b>	<b>316,830</b>		-	<b>188,164,131</b>
<b>Property, Plant &amp; Equ.</b>									
Boundary Wall		10	2,876,476		2,876,476				2,876,476
Scientific Equipment		10	167,549,703	827,861	168,377,564	63,182,804			231,560,368
Scientific Equipment donation		10	126,270,432	23,370,541	149,640,973	1,825,288			151,466,261
Office Equip/ Furn & Fitti.		10	18,400,327	15,680	18,416,007	18,777,255			37,193,262
Other Equipment		10	1,312,672		1,312,672				1,312,672
Motor Vehicle		4	31,023,106		31,023,106				31,023,106
Radiation facility		10	214,317		214,317				214,317
Library Books		10	1,617,042		1,617,042	253,220			1,870,262
Computer items & software package		3	16,083,686	(15,680)	16,068,006	1,729,433			17,797,439
Electronic Items		4	11,672,937	(53,417)	11,619,520	2,240,031			13,859,551
Security Hut & fence-		10	1,008,760		1,008,760				1,008,760
Access Bridge		10	2,864,394		2,864,394				2,864,394
NDT Fence		5	490,800		490,800				490,800
NDT Boundary Wall		10	2,583,023		2,583,023				2,583,023
<b>TOTAL ASSETS VALUE</b>	<b>Rs.</b>		<b>383,967,675</b>	<b>24,144,985</b>	<b>408,112,660</b>	<b>88,008,031</b>	-	-	<b>496,120,692</b>

<b><u>DEPRICIATION</u></b>		<b>As At</b>	<b>Adjustment</b>	<b>Re-stated</b>	<b>Additions/</b>	<b>As At</b>	<b>W D V as at</b>
<b><u>Amortization/Depreciation</u></b>		<b>01/01/2014</b>	<b>Made</b>	<b>Opening</b>	<b>Transfers</b>	<b>31.12.14</b>	<b>31.12.2014</b>
				<b>Bal.</b>	<b>in</b>	<b>Disposal</b>	
Land					98,485		7,944,442
					98,485	-	7,944,442
<b><u>Land &amp; Building</u></b>							
NDTC-Land		90,884,994					<b>90,884,994</b>
Office Building	2	20,545,674		20,545,674	1,942,172	22,487,846	<b>74,791,291</b>
		<b>111,430,668</b>	<b>-</b>	<b>20,545,674</b>	<b>1,942,172</b>	<b>22,487,846</b>	<b>165,676,285</b>
<b><u>Property,Plant &amp; Equ.</u></b>							
Boundary Wall	10	2,876,475		2,876,475		2,876,475	<b>1</b>
Scientific Equipment	10	105,811,926		105,811,926	12,742,860	118,554,786	113,005,582
Scientific Equipment donation	10	73,773,582	8,777,697	82,551,279	11,093,156	93,644,435	57,821,826
Office Equip/ Furn & Fitti.	10	8,932,659	392	8,933,051	2,225,295	11,158,346	26,034,916
Other Equipment	10	1,306,476		1,306,476	1,989	1,308,465	4,207
Motor Vehicle	25	20,366,871		20,366,871	5,500,000	25,866,871	5,156,235
Radiation facility	10	214,315		214,315		214,315	2
Library Books	10	651,398		651,398	168,413	819,811	1,050,451
Computer items	33	13,052,242	(392)	13,051,850	1,774,133	14,825,983	2,971,456
Electronic Items	25	8,712,051	(48,686)	8,663,365	1,272,919	9,936,284	3,923,267
Security Hut	10	343,722		343,722	100,876	444,598	564,162
Access Bridge	10	1,319,189		1,319,189	286,439	1,605,628	1,258,766
NDT Fence	20	130,970		130,970	49,080	180,050	310,750
NDT Boundary Wall	10	599,442		599,442	258,302	857,744	1,725,279
<b>TOTAL DEPRICIATION</b>	<b>Rs.</b>	<b>238,091,318</b>	<b>8,729,011</b>	<b>246,820,329</b>	<b>35,473,462</b>	<b>= 282,293,791</b>	<b>213,826,901</b>
<b>NET BOOK VALUES</b>	<b>Rs. Note</b>	<b>2014</b>				<b>2013</b>	
<b>Land &amp; Building</b>		165,676,285				167,301,627	
<b>Lease Hold Properties</b>	<b>10.2</b>	7,944,442				8,042,927	
<b>Infrastructure,Plant &amp; Equ.</b>	<b>10.1</b>	213,826,901				145,876,357	
		<b>387,447,628</b>				<b>321,220,911</b>	

## **Disclosures to Accounts**

### **1.Revaluation of Property Plant & Equipment**

Process of revaluation had been initiated in the year 2012 in order to comply with LKAS 16. A schedule of Scientific Equipment which are serviceable but the book value become zero were sent to the Department of Valuation.

Department of Valuation continuously attended to this process and requested some additional information from the AEA in order to finalize this exercise.

### **2.Relocation of the Atomic Energy Authority**

Road Development Authority (RDA) had informed that the existing AEA land will be acquired by them for the purpose of constructing new bridge across the Kelani River to connect the Colombo – Katunayake express way (CKE).

A land belongs to Urban Development Authority (UDA), situated at I.T.Park Malabe, has been identified as the relocation site and Rs.50 mn. had been paid to the Urban Development Authority (UDA) during the year 2014.

The relocation project is implemented under two phases. Japanese International Cooperation Agency (JICA) provides Rs.369 mn. for the phase 1 through the RDA and Government of Sri Lanka (GOSL) provide necessary funds for the phase 2. Approval of the Department of National Planning to spend Rs.700 mn. had been received during the year 2014.

### **3. Un settled commitments at the end of the year 2014**

Cash balance as at 31.12.2014 represent the following capital commitments.

<b>Item</b>	<b>Reference</b>	<b>Amount Rs.</b>
Handheld Contamination Monitor	PO 3144	6,975,000.00
Liquid Scintillation Counter	PO 3281	2,667,000.00

### **4. Outsourcing of AEA Properties**

The Board of Directors of the AEA has decided to rent idling space (545sft.) for the use by the Polipto Lanka (PVT) Ltd under renewable annual contract agreement. Polipto Lanka (Pvt.) Ltd. is a Company gazette under the Ministry of Power & Energy and operated under the Ministry of Technology & research (MOTR) during the year 2014.

## 5. Pending Court Cases

Case No	Petitioners	Respondents	Current status
HCA LT 119/2010 LT/Case 08/278/2009	Atomic Energy Authority (AEA)	Mr. T.S. Illapperuma Ex. Employee/AEA	This case has been filed against the reinstatement of the employment under the LT decision of the LT Case 08/278/2009. The decision of the Labour Tribunal was to reinstate without back wages. AEA has made an appeal against the above decision in the High Courts. As per the directions of the LT Rs. 223,560/- has been deposited in a Savings Account the custody of the pass book is with the LT.  This appeal is scheduled to be taken up for hearing on 22.01.2014
Suprem Court Case No- FR 662/2010		This case was filled by an employee of AEA, against the salary anomalies of the Scientific Officers as a result of re-categorizing employees under MSD Circular No.30.	The next date of the case is 15 <sup>th</sup> October 2015, which is to be taken up for arguments.

## **6.Transfer of the ownership of the Assets belonging to the Multipurpose Gamma Irradiator (MGIF) Project from the Ministry of Technology & Research to the AEA**

At the meeting held in 25<sup>th</sup> March 2011 under the chairmanship of the Secretary to the Treasury, decision had been taken to hand over Multipurpose Gamma Irradiator Facility/project to the Atomic Energy Authority upon the completion of construction work and installation of machinery. Department of Management Services has approved necessary cadre provisions for this project under AEA.

Accordingly, necessary cadre positions were filled during the year 2013 and 2014 respectively. Commercial operations of the multipurpose gamma irradiator were started under the name of Sri Lanka Gamma Centre (SLGC) with effect from January 2014

Land allocated to Sri Lanka Gamma Centre is presently belonging to the Ministry of Technology & Research (MOTR) under lease agreement with the Board of Investments of Sri Lanka (BOI). MGIF final steering committee meeting held on 20.November 2014 has decided to hand over this land to the AEA under sub lease agreement.

Implementing of the above decision is in progress and inventories are under preparation. Action will be taken to take over these assets by the Sri Lanka Atomic Energy Board (SLAEB) which is the succeeded institution of the AEA under the new Sri Lanka Atomic Energy Act No.40 of 2014.

However the income statement of the SLGC for the year 2014 is attached as a separate note

Capital expenditure incurred for the MGIF project by the AEA had been accounted as MGIF project and treated as receivable from MOTR.

Amount equal to decay cost of CO-60 source for the year 2014 has been charged to the operating expenses from the above account.

Further to above, the value of equipment received from IAEA under MGIF project also accounted as long term assets until the owner ship of the land and other assets are transferred to the (SLAEB).

### **6.1 Sri Lanka Gamma Centre (SLGC) – Claim for Re Packing Charges**

Lalan Rubber (Pvt) Ltd, the exclusive customer of the SLGC had made a claim for re packing charges of Rs. 1,389,140.00 and 365,450.00 for container transport and rental by their letter dated 01<sup>st</sup> August 2014.

The above cost had been incurred by them for their products contaminated by pets with in the SLGC premises.

Board of Management of the Sri Lanka Atomic Energy Board (SLAEB) has instructed the director/ SLGC to negotiate with the respective customer for downward reduction or set off against the storage charges payable by this customer as per the Memorandum of understanding (MOU) signed for irradiation services.

### **6.2 Expenditure incurred for Dummy Products**

Rice Barn and Chili Power stock to the value Rs.429,247.50 and Rs. 67,500/= respectively were charged as current year expenditure as there were no economic value.

## **7. IAEA Donations under Technical Cooperation**

The Atomic Energy Authority (AEA) functions as the focal point of Sri Lanka for the coordination and implementation of the Technical Cooperation Programmes of International Atomic Energy Agency (IAEA) in order to develop nuclear technology in the country.

The assets and consumables donated to AEA under various IAEA projects have been accounted in AEA books of accounts.

The following details are relevant to the transactions during the year 2014 for AEA technical cooperation programmes.

No	Project No.	Project Description	Allocation in Euros (€)	Allocation in SLRS (approximate)	Value of Equipment & Consumables Received in SLRS
	SRL/0/010	Strengthening of Radiation Safety Programme and Nuclear Analytical Capabilities of the National Research Center	103035	18,000,000	16,654,970
	Do	Strengthen Radiation Safety Programme			1,318,900
	SLR/1008	Providing Technical support for smooth, safe and sustainable operation of MGIF Project	122,000	21,960,000	1,709,400
		<b>Total</b>			<b>19,683,270</b>

In addition to above, AEA had conducted several research projects using IAEA assistance and trained AEA employees as well as officers of other national institutes in various fields. AEA officials had also participated in several meetings conducted in several countries under the above projects.

Sri Lankan Government has made the following contributions as the National Participation Cost (NPC) on behalf of receiving the above assistance from IAEA.

1. Regular Budget contribution SRLS Rs. 15 million paid by the Ministry of Technology and Research. in 2014.
2. Assessed Programme Cost (APC) and National Participation Cost (NPC) SLRS. 6 million paid from the External Resources Department (ERD) of the General Treasury.

### **7.1. Purchase of Scientific Equipment through IAEA procurement system**

The International Atomic Energy Agency (IAEA) has a mechanism to assist its member States to procure scientific and consumable items for Nuclear Technology related projects and activities including radiation protection and personal monitoring services.

Approval from the Cabinet of Ministers had been granted Atomic Energy Authority to follow this procedure as per Cabinet Paper No.12/0881/516/028/TBR dated 07.07.2012 in this regard.

Details of fund transfers to the IAEA to procure three (3) items ie X-Ray equipment – for GSD value (app) 17.Mn., Gamma Spect. Meter System for LSD value (app.) 21.Mn and Hand held X-Ray Fluore. Spectrometer for – LSD value (app.) Rs. 6 Mn., and progress of procurements up to end of 2014 are given below.

	<b>Description</b>	<b>Equipment</b>	<b>Values in Rs.</b>
	Balance as at 31.12.2013	X-Ray equipment – for GSD Gamma Spect. Meter System for LSD	38,905,871
	Funds remitted in 2014	Hand held X-Ray Fluore. Spectrometer for – LSD	6,016,403
	Total		44,922,274
	Value of equipment received during the year 2014	X-Ray equipment – for GSD Gamma Spect. Meter System for LSD	35,314,671
	Balance available for the pending items and service charges to the IAEA		9,607,603

The amount contributed by the AEA is considered as the voluntary contribution is subject to charge 3% for the IAEA programme support and administrative services, which will be charged as disbursement, occur.

### **8. Arrears of the EPF and ETF of the AEA staff for the period 1981-2014**

AEA policy on employer's contribution of the EPF was changed from 12% to 15% with effect from 26-05-2011 at the Board Meeting held on 07-12-2012. Effective date was the date which the Committee on Public Enterprises (COPE) direction was received and considering the fund position for the arrears payment.

Subsequently, the affected parity (AEA employees) has made a request to the management that they are entitle to receive the arrears with effect from 1981. This matter was discussed with the Secretary, Ministry of Power & Energy and instructions were received to calculate such arrears also and submit to the treasury for necessary action.

Approximate fund requirement for EPF & ETF excluding surcharges are as follows.

**Values in Rs.mn.**

Description	Sub Total	Grand Total
EPF payable from 1981 to May 2011 for change of %	5.9	
EPF arrears from 2007 to May 2011 for cost of living allowance	3.7	
EPF payable from January 2014 to May 2014	1.4	11.00
ETF payable from 2007 to May 2014		5.70

Instruction have been received by the Public Enterprises Department circular No.02/2013 to regularize these payment with the concurrence of the Treasury.

### 9. Liquidated Damages

AEA follows National Procurement Guideline for procurement, As per the instructions of the National Procurement Guideline, AEA claimed Liquidated damages from the relevant suppliers in following manner for the delay in supplying the equipment.

Name of the Supplier	Equipment	Contract Amount	Delay	Deducted %	Amount claimed
Heyley Life Science Pvt Ltd.	Iron Chromatography	8,345,000	10 weeks	10%	834,500
Photon Technologies pvt Ltd	Hand held gamma survey meters 5 nos.	11,755,000	3 weeks	3%	352,650

Total Claimed Amount Rs. 1,187,150

Total Claimed amount is accounted as Capital Gain under Capital and Reserves in the Statement of Financial Position and in the Statement of Equity.

**Sri Lanka Gamma Center, Export Processing Zone, Biyagama**  
**Income statement for the year end 31/12/2014**

Sales Income		44,008,113.07
<b>Cost of Sales</b>		
Opening Stock	466,583.89	
Add		
Purchase	1,133,623.90	
	1,600,207.79	
Less		
Closing Stock	1,021,087.17	579,120.62
Gross Profit		43,428,992.45
<b>Administration Operational Expenses</b>		
Salary	7,519,663.07	
Plant Operational Manager allowance	234,000.00	
Trainee Allowance	84,500.00	
Overtime	1,219,990.91	
Shift Allowance	1,657,000.00	
Meal Allowance	124,000.00	
Staff Training	74,928.05	
Transport	1,541,589.73	
Electricity	5,425,138.56	
Telephone	262,641.75	
Water	135,939.27	
Building Maintenance	694,180.06	
Opening Ceremony Expenses	2,622,361.00	
Rent	263,666.67	
Security	2,853,500.00	
Man power	3,519,660.58	
Stationery	655,482.50	
Equipment Maintenance	298,654.50	
Payment for SLS Standard	190,500.00	
Travelling & Subsistence	3,700.00	
Welfare	210,143.85	
Insurance	681,048.49	
Legal fee	3,000.00	
Medical Encashment	292,625.67	
Advertisement	62,850.00	
Gate pass	17,572.68	
Printing	2,680.00	
Entertainment	36,848.79	
Postage	9,323.00	30,697,189.13
<b>Sales &amp; Distribution Expenses</b>		
Co 60 <sup>0</sup> decay Cost	14,052,726.10	
Clearing charges	91,233.93	
Container Hire Charge	365,450.00	
Fuel	1,105,372.33	15,614,782.36
<b>Finance &amp; Other Cost</b>		
Other Expenses	57,807.37	57,807.37
<b>Net Profit /(Loss)</b>		(2,940,786.41)

Note: The above figures are excluding depreciation of non-current assts.



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**கணக்காய்வாளர் தலைமை அபிபதி திணைக்களம்**  
**AUDITOR GENERAL'S DEPARTMENT**



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எனது இல. }  
My No. }

EH/B/AEA/1/14/01

මගේ අංකය  
உமது இல. }  
Your No. }

දිනය  
திகதி }  
Date }

December 2015

The Chairman  
Atomic Energy Board

**Report of the Auditor General on the Financial Statements of the Atomic Energy Authority for the year ended 31 December 2014 in terms of Section 14(2)(c) of the Finance Act No. 38 of 1971**

The audit of financial statements of the Atomic Energy Authority for the year ended 31 December 2014 comprising the statement of financial position as at 31 December 2014 and the statement of financial performance, statement of changes in net assets/equity and cash flow statement for the year then ended and a summary of significant accounting policies and other explanatory information, was carried out under my direction in pursuance of provisions in Article 154(1) of the Constitution of the Democratic Socialist Republic of Sri Lanka read in conjunction with Section 13(1) of the Finance Act, No.38 of 1971 and Section 32(3) of the Atomic Energy Authority Act, No. 19 of 1969. My comments and observations which I consider should be published with the annual report of the Authority in terms of Section 14(2) (c) of the Finance Act appear in this report. A detailed report in terms of Section 13(7) (a) of the Finance Act will be issued to the Chairman of the Authority in due course.

**1.2 Management's Responsibility for the Financial Statement**

Management is responsible for the preparation and fair presentation of these financial statements in accordance with Sri Lanka Public Sector Accounting Standards and for such internal control as the management determines is necessary to enable the preparation of financial statements that are free from material misstatements, whether due to fraud or error.

**1.3 Auditor's Responsibility**

My responsibility is to express an opinion on these financial statements based on my audit. I conducted my audit in accordance with Sri Lanka Auditing Standards consistent with International Standards of Supreme Audit Institutions (ISSAI 1000 -1810). Those Standards require that I comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatements.



An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgments, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Authority's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Authority's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements. Sub-sections (3) and (4) of Section 13 of the Finance Act, No. 38 of 1971 give discretionary powers to the Auditor General to determine the scope and extent of the Audit.

I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my audit opinion.

#### **1.4 Basis for Qualified Opinion**

My opinion is qualified based on the matters described in paragraph 2.2 of this report.

### **2. Financial Statements**

#### **2.1 Qualified Opinion**

In my opinion, except for the effects of the matters described in paragraph 2.2 of this report, the financial statements give a true and fair view of the financial position of the Atomic Energy Authority as at 31 December 2014, and its financial performance and cash flows for the year then ended in accordance with Sri Lanka Public Sector Accounting Standards.

#### **2.2 Comments on Financial Statements**

##### **2.2.1 Sri Lanka Public Sector Accounting Standards (SLPSAS)**

The following observations are made.

- (a) According to the accounting policies of the Authority, the financial statements had been prepared on the basis of SLPSAS. However, it was observed that both SLPSAS and Sri Lanka Accounting Standards (LKAS) had been applied for the preparation of financial statements of the year under review.





- (b) The Authority had not revalued its property plant and equipment to ensure that the carrying amounts did not differ materially from their fair value, which would be determined at the balance sheet date, as stipulated in **SLPSAS 7 – Property, Plant and Equipment**. Further, historical cost of the fully depreciated assets, which had been continuously used, as at 31 December 2014 was Rs. 129.39 million.

### 2.2.2 Accounting Deficiencies

The following observations are made.

- (a) A sum of Rs. 15 million had been received from the Ministry of Technology and Research to settle the financial obligations of the Government of Sri Lanka to the International Atomic Energy Agency (IAEA) in respect of Regulatory Budget (RB) payable amounting Rs. 16,826,190 for the year under review and the previous years. However, the Authority had settled only a sum of Rs. 14,864,257 by using that funds and accordingly, the balance due as at 31 December 2014 was Rs. 1,961,933. Further, the grant received from the Ministry and the amount paid by the Authority to settle the dues had not been accounted for, and only the balance of the funds received from the Ministry amounting to Rs. 136,049 had been shown under trade payable in the financial statements for the year under review.
- (b) The total purchase cost of the 250 KCi of Cobalt 60 source, which had been used in the Multi-purpose Gamma Irradiation Facility (MGIF) Project, amounting to Rs. 121,144,190 had not been taken in to the accounts of the Authority, and instead, a sum of Rs. 33,156,406 incurred by the Authority during the year 2014 and the decay cost amounting to Rs. 14,052,726 had been accounted in the MGIF Project Account and shown in the financial statements under the receivable from the Ministry of Science and Technology (MGIF Project) Account as at the end of the year under review. Further, the amount shown in the financial statements as receivable from the Ministry had not been got confirmed. However, the income generated from the MGIF and the other expenditure incurred by the Authority in respect of that facility in the year 2014 amounting to Rs.44,008,113 and Rs. 35,020,267 respectively had been taken into the financial statements of the Authority. Hence, the transactions of the MGIF for the year 2014 had not been fairly reflected in the financial statements.

### 2.2.3 Unexplained Differences

A difference of Rs. 276,517 in respect of property plant and equipment had been observed between the amount shown in the financial statements and the amount shown in the fixed assets register and the reasons for the difference were not explained to audit.





#### 2.2.4 Accounts Receivable and Payable

Out of the trade receivables of Rs. 4,803,479 as at the end of the year under review, a sum of Rs. 1,867,801 were remained outstanding for a period ranging from one to nine years without being recovered.

#### 2.2.5 Lack of Evidence for Audit

The following observations are made.

- (a) The documentary evidence for the verification of scientific equipment and unusable items aggregating Rs. 9,639,453 included under the advance payment for scientific equipment and non-current assets respectively in the financial statements had not been furnished to audit.
- (b) Details and records relating to custody, distribution and usage of radioactive materials amounting to Rs. 13,952,795 and some other similar materials (the value of which had not been identified) handed over to the Authority in the year 2012, and details of services provided using them were not made available to audit.
- (c) International Atomic Energy Agency (IAEA) expects the Authority to complete the Projects within the given time period with the coordination of relevant Recipient Institutes and Counterpart(s). However, information relating to the utilization of funds approved by the IAEA was not made available to audit. Hence, exercising of control over the following areas by the Authority was not ensured in audit.
  - (i) Activities of the Projects approved by the IAEA and recording and reporting of the progress thereof.
  - (ii) Efficient and effective allocation and utilization of funds provided by the donor agencies for approved Projects.
  - (iii) Present performance relating to implementation of Projects.



**2.3 Non-compliance with Laws, Rules, Regulations and Management Decisions etc.**

The following instances of non-compliance with Laws, Rules, Regulations and Management Decisions were observed.

**Reference to Laws, Rules, Regulations and Management Decisions etc.**

**Non-compliance**

(a) Public Finance Circular No. 02/2014 of 17 October 2014

The existence of fixed asset in some Sections such as Sri Lanka Gama Centre (SLGC) and National Centre for Non-Destructive Testing (NCNDT) of the Authority as at 31 December 2014 had not been verified.

(b) Section 7.4.4 of the Public Enterprises Circular No. PED/12 of 2 June 2003 on Public Enterprises Guidelines for Good Governance

A Training Committee (a sub-committee of the Board of Directors) had not been established by the Authority to formulate the procedures relating to selection of individuals for local/foreign training. Further, there were instances that the Board members had participated in repeated overseas visits instead of allowing the most suitable officers to participate.

(c) Management Services Circular No. 05/2014 dated 21 November 2014.

The employees who work in Government Corporation which have recorded a loss during the previous financial year and failed to reduce the loss as compared to the last financial year were only entitled for Rs.2,000 of bonus for the year 2014. However the Authority had paid Rs. 13,500 per employee as bonus and the total amount so paid for the year 2014 without considering the instructions in the Circular was Rs. 1,705,364.

**3. Financial Review**

**3.1 Financial Results**

According to the financial statements presented, the operation of the Authority during the year under review had resulted in a deficit of Rs. 25,596,777 as compared with the corresponding deficit of Rs. 15,176,945 for the preceding year, thus indicating a further deterioration of Rs.10,419,832 in the financial results.



Even though, the total revenue had been increased by 50,637,815 or 38.5 per cent during the year under review, the increase of total expenditure as compared with the preceding year by Rs.61,057,648 or 41.6 per cent was the main contributory factor for this deterioration in the financial results.

#### **4 Operating Review**

##### **4.1 Management Inefficiencies**

###### **(a) Sri Lanka Gamma Centre**

Multipurpose Gamma Irradiator Facility (MGIF) Project was initiated by the Authority as a BOI Project with the approval of the National Planning Department of the General Treasury in the year 2006 and located within the leased out premises to the Ministry of Science and Technology for 30 years at the Biyagama Export Processing Zone. The commercial activities of the Project had been commenced in February 2014 and the following observations are made in this regard.

- (i) The Authority had not entered into a memorandum of understand (MOU) or an agreement with the BOI as the lease holds right of the land is still remaining under the Ministry of Science and Technology. The amount incurred by the Ministry for this Gamma Centre was Rs. 746.6 million.
- (ii) The ownership of the Centre had not been transferred to the Authority even up to 31 August 2015.
- (iii) The Project had obtained only the ISO 9001:2008 Quality Management System which is sufficient only for providing services to the suppliers who providing products for the local market. However, the Project was unable to obtain the international quality standard certificate (ISO 13485:2003 Quality Management System) which required to achieve the international quality standards requirements particularly to provide services to suppliers who cater to the international market relating to the medical devices. Accordingly, the provision of services by the Project was not focused the entire requirement of the country. It was further observed that there were some other institutions functioning in the market providing same services at high quality level.
- (iv) Even though the designed activity of the radioactive source of the Project was 3,000 Curies (kCi), it had been used only the radioactive source of 250kCi. Therefore, it was observed that the total capacity had not been optimally utilized by the Project.



- (v) The approved cadre was not aligned with the designed Human Resource (HR) requirements of the Project and therefore, expected level of operations and marketing targets could not be achieved.

**4.2 Idle and Under Utilized Assets**

A computer software package purchased for a sum of Rs. 389,375 during the year 2011 for the purpose of stores automation had been fully depreciated as at 31 December 2014. However, that software package had never been used for the intended purpose.

**4.3 Matters in Contentious Nature**

The Authority had paid a sum of Rs. 2,153,424 for the opening ceremony of the Sri Lanka Gamma Centre, which was organized by the Ministry of Technology and Research in contrary to the provisions in Section 8.3.9 of the Public Enterprises Circular No. PED/12 of 2 June 2003 on Public Enterprises Guidelines for Good Governance

**4.4 Fruitless Expenditure**

Fifteen items of radioactive materials amounting to Rs. 1,440,000 had been purchased during the year under review. Nevertheless, the similar materials were made available in the stocks of the Authority without being utilized.

**4.5 Human Resources Management**

39 vacancies in different categories of the permanent staff, including 4 in Senior Grades, 23 in Secondary Grades and 12 in Primary Grades were observed at the end of the year 2014, which showed the failure of the Authority to maintain a realistic cadre level by reviewing periodically.

**5 Accountability and Good Governance**

**5.1 Internal Audit**

The Internal Audit Division consists of only one officer, and some other additional works had also been assigned to the Internal Auditor. Accordingly, it was observed that the internal audit functions had not been appropriately designed and implemented to monitor the internal control system of the entity.

**5.2 Audit Committee**

Instances of non-responding by the Board of Directors for the recommendations of the Audit Committee were observed.





### 5.3 Procurement Plan

Even though a procurement plan had been prepared by the Authority, it had not been in line with the Action Plan and the Budget prepared by the Authority for the year under review.

### 5.4 Budgetary Control

Significant variances were observed between the budgeted and the actual income and expenditure, thus indicating that the budget had not been made use of as an effective instrument of management control.

## 6 Systems and Controls

Significant deficiencies observed in systems and controls during the course of audit were brought to the notice of the Chairman of the Authority from time to time. Special attention is needed in respect of the following areas of control.

- (a) Control over Property, Plant and Equipment
- (b) Debtors and Other Receivables
- (c) Compliance with Laws, Rules, etc.
- (d) Procurements
- (e) Utilization of Resources
- (f) Human Resources Management
- (g) Assets Management
- (h) Budgetary Control

H.M. Gamini Wijesinghe  
Auditor General



## **Auditor General's Report Replies 2014**

### **2. Financial Statements**

#### **2.1 Qualified Opinion**

Informative

#### **2.2. Comments on Financial Statements**

##### **2.2.1 Sri Lanka Public Sector Accounting Standards (SLPSAS)**

- (a) Relevant and suitable policies will be followed in preparation of Financial Statements in the year 2015.
- (b) Arrangements have been made to revalue the existing assets belonging to the Sri Lanka Atomic Energy Board (SLAEB) in order to fair presentation of the value of the Property, Plant and Equipment.

##### **2.2.2. Accounting Deficiencies**

- (a) Obligation of Government of Sri Lanka to the International Atomic Energy Agency (IAEA) for the year 2014 was settled using the funds received from the Ministry of Power & Renewable Energy (MOPRE). The excess funds received in this regard were refunded to MOPRE in 2015.
- (b) Amount spent out of SLAEB funds for MGIF project, had been shown as a receivable amount from the line Ministry, since the project was belonging to them. These amounts were transferred to asset or expenditure accounts under SLAEB after handing over the assets from the line ministry.

##### **2.2.3. Unexplained Differences**

The difference of Rs.276,517 between the amount shown in the financial statement and fixed asset register coming from the old balances. It is difficult to reconcile this difference due to unavailability of proper records during the period before 1977. Suitable action for match these two records have been taken when the opening balances for SLAEB's fixed assets are recorded using physical balances.

##### **2.2.4. Accounts Receivable and Payable**

Rs.2,537,004 had been collected out of the debtor balance as at 31.12.2014 which includes the collection of old balances to the value Rs.191,368 for the period from 2005 to 2013.

Other than TLD service for occupational exposures for radiation safety of workers and NDT inspections, collect the service charges for the services before attending to the job. In case of personal monitoring service, (TLD) Atomic Energy Authority (AEA) has to provide services as a regulatory requirement and to protect radiation workers. In such cases AEA is compelled to provide services on credit basis. In addition, the income for Non-Destructive Testing (NDT) is assessed after completing the job. In 2015, AEA has arranged to obtain a reasonable advance from the estimated job value before attending to NDT inspections.

SLAEB decided to handing over the Trade debtor balance as at 31/12/2014 and collected funds regarding the services rendered by the Division of Radiation Protection of Atomic Energy Authority to the Sri Lanka Atomic Energy Regulatory Council as per the chapter XIV of the Atomic Energy Act No 40 of 2014.

At present, SLAEB has collected 2.6 millions up to March 2016 and further action will be taken to collect possible debts. 90 percent is due from Government Institutions.

##### **2.2.5. Lack of Evidence for Audit**

- (a) This amount is consisting with unusable office furniture items amounting to Rs. 31,850 and Rs. 9,607,602.79 relating to the payments made to IAEA for import of two Scientific Equipments under cost sharing basis.

Rs. 31,850 can be written off as scrap, with the approval of Board of Management.

Rs.9.6 mn. is the amount remitted to the IAEA for the scientific equipment purchase under cost sharing basis. Two Scientific Equipment which the invoice value Rs.6.6.mn. have already been received to AEA, Balance of Rs.3 million is remaining as a receivable amount from IAEA as the value of commercial invoice was less than Performa invoice value. Steps will be taken to reconcile these figures with communicating IAEA.

- (b)The Division of Radiation Protection has not obtained any radioactive material under GTRI programme. We assume that AG's Report refers to the Scientific Equipment sent by the GTRI project.

Items concerned in the query are Radiation Monitors which are the property of US Embassy and handled over to Radiation Protection & Regulatory Division of AEA which was responsible for coordination of Global Treat Reduction Initiative (GTRI) Project activities. Radiation Protection Division uses these items for training and other regulator activities.

Head of the Radiation Protection & Regulatory Division had informed to record in AEA books of Accounts these items in 2012 which the items have been received on 18.02.2010.

The above items were recorded in AEA books of accounts on 31.12.2014 backdating the same received on 18.02.2010.

All items received under GTRI project have been taken over by Sri Lanka Atomic Energy Regulatory Council (SLAERC) in 2015. (SLAERC was formed with Staff of Radiation Protection & Regulatory Division of AEA)

On the request of GTRI, Other 80 numbers of Radeye Dosimeters received from US Embassy (without invoices) were distributed to GTRI sites at which physical protection instruments have been installed.

Two Radeye Dosimeters were received by SLAEB.

- (c)It is true that International Atomic Energy Agency (IAEA) expects its member States to complete projects approved under its technical cooperation programme within the planned period with the approved budget.

**Nature of funding:**

Budget estimated for each project at the designing stage may vary during the implementation due to various reasons (variable charges / cost in connection with the payment for experts' honorarium and host institutions for training fellows, changing prices of equipment etc.). However, balance money of any project is available; it is used for implementation of activities in the other TC projects approved for the country with the concurrence of respective project counterparts and IAEA National Liaison Officers (NLO). If unused funds are available after implementation of all planed activities of each project, these funds are used for other important activities in relation to development of nuclear technology applications and services in the country.

IAEA delivers its technical assistance in the forms of Scientific Visits, Fellowship, Equipment and Expert Services through the approved projects and IAEA does not provide any fund through any project.

**Delay in Implementation:**

At the implementation of projects, several parties are involved apart from IAEA and member states and therefore, IAEA or Member State cannot complete the proposed project during the planned period due to the delays occurred from other external parties (Some of the reasons identified for delays are as follows.

IAEA is not in a position to train all personnel in IAEA laboratories as per the requirements of fellows and then the IAEA has to find out suitable institutes (Host institutes) to train personnel as per the requirements of each applicant. Such host institutes sometimes do not timely response to the IAEA for its request made to host fellowship training, Scientific Visits etc. and unexpected delays are occurred.

The applicant may reject the training venue (Host institute or country) and then the IAEA again has to initiate process from the beginning to find a suitable alternative host.

Sometimes proposed host may reject to accept the fellows, then IAEA has to find alternative host for training and then the process should restart.

Even though the host institute agreed to train the applicant, sometimes supervisor may not be available during the proposed period due to urgent personal or official commitments and again the durations have to be changed on the availability of supervisor.

### **Responsibilities:**

Implementation of project activities is the responsibility of the Project Counterpart. The NLO should have responsibility to communicate with Program Management Officer (PMO) who is appointed for Sri Lanka to implement IAEA TC projects in order to resolve any issues, if any, with regard to implementation of projects.

## **2.3 Non-compliance with Laws, Rules, regulations and Management Decisions etc.**

- (a) Physical verification of the NCNDT Centre for the year ended 2014 has been completed. Assets belonging to Sri Lanka Gamma Centre (SLGC) have been handed over to the SLAEB by the Ministry of Power and Renewable Energy in August 2015. Therefore the Board of Survey could not have been carried out during the year 2014. However, the Board of Survey for SLGC had been carried out in year 2015. Inventories of these items are available in the custody of the Director/SLGC.
- (b) A training committee has been appointed inclusive of DG and Directors with the Board approval to selection of candidates for Foreign Training programs.
- (c) This was not a bonus payment. The staff who contributed to achieve the targeted income for the year was paid this payment as an incentive to encourage them work efficiently.

## **3. Financial Review**

### **3.1 Financial Results**

The following reasons were affected to increase the deficit.

1. Some expenses have been increased than budgeted expenses.
2. Increase of the salaries by the government budget proposals.
3. Decrease of the income due to low demand of some services from AEA.
4. Recurrent expenditure of the SLGC has been increased remarkably as a result of decay cost of CO – 60 source which was charged to income and expenditure statements.

## **4. Operating Review**

### **4.1 Management Inefficiencies**

#### **(a) Sri Lanka Gamma Centre**

This is not a BOI project as mentioned in the Auditor General's report.

- (i) The project has already been handed over to the Sri Lanka Atomic Energy Authority by the Ministry of Power and Renewable Energy.

Board of Investments of Sri Lanka (BOI) has informed that the lease agreement of the land allocated to the SLGC can be transferred to SLAEB subject to make the payment as annual rental.

- (ii) Other assets belonging to the Multipurpose Gamma Irradiator facility had been transferred to the SLAEB with effect from 04.08.2015.
- (iii) SLGC has obtained ISO 13485:2003 as the first government owned institution in Sri Lanka and ISO 9001:2008 standards.

We cannot agree with the statement mentioned on quality of services of similar institutions without any scientific evidence.

There was no local company other than SLGC eligible to provide irradiation of services for sterilize surgical gloves to Government Health sector in 2014. The Plant has been designed to cater to local suppliers who cater to the Local Market as well as International Market.

- (iv) In all over the world as an application of radiation technology, Irradiator Plants are usually designed for higher capacity (In the case of SLGC it is 3000 kCi) thinking over 10-20 years ahead demand for irradiation services since the capital investment is high to invest number of plants instead. As such the enhancement of activity of the source will be done with the demand for irradiation services in future years.

Further, the nature of the Co – 60 radioactive materials is that activity of the radioactive source decays automatically by 12.5% per year. Therefore, activity of Co – 60 source installed in the plant is decided according the expected products for irradiation at SLGC and hence activity of Co – 60 will be increased with the increase of demand for irradiation services.

- (v) Applications have been called several times but not applied anyone for the post. Therefore, Scheme of Recruitment for the post of Operational Manager has been sent to MSD requesting to reduce the qualification according to the salary scale. Reply has been received from MSD reducing Number of service years required for the post. However no one applied for the amended SOR too. Other posts were unable to fill until the approval of the MSD has been reviewed for amended SOR.

#### **4.2 Idle and Under Utilized Assets**

Accounting & Stores software package was purchased from the Author C Clarke Institute for Modern Technology (ACCIMT). They were unable to complete this software since the staffs involved from ACCIMT for this project was resigned when the development is in progress.

However this package was helpful to the management of the AEA to see the daily cash balance, receipts and payments etc. and invoices were issued using this package until the new package was installed.

AEA decided to terminate the contract of this project as it was delayed and as the ACCIMT requested very high annual service charge for annual maintenance agreement to continue service.

#### **4.3 Matters in Contentious Nature**

Rs.2, 153,424 for the opening ceremony of the Sri Lanka Gamma Centre was paid as per instructions received by the Secretary, Ministry of Technology & Research.

#### **4.4 Fruitless Expenditure**

15 no. of Pocket Dosimeters were purchased for two different divisions at different locations for different purposes. 5 Nos. for Sri Lanka Gamma Centre, at the SLGC, Biyagam, to use during work to assure the radiation safety of workers and 10 Nos. for Early warning

emergency unit at Orugodawatta to handle radiation accident / emergency situations and those were included in the Procurement Plan. The actual needs were assessed by the Project Evaluation Committee & granted approval by the Board of Management. Therefore, we can't consider this as fruitless expenditure.

#### 4.5 Human Resource Management

The following cadre positions were vacant as at 31<sup>st</sup> December 2014.

Staff Category	Vacancy
<b><u>Senior</u></b>	
* Directors Scientific Division 02	
* Director Administration 01	
* Plant Operation Manager 01	04
<b><u>Secondary</u></b>	
* Scientific Officer 02	
* Finance/Admin/internal Audit officers 03	
* Management Assistant 05	
* Technical Assistant 13	23
<b><u>Primary</u></b>	
* Office Aid/Lab Attendance 09	
* Driver 01	
* Electrician 01	
* Computer Hardware Technician 01	12

Above mentioned all vacancies have been created in 2013 and 2014.

Following major reasons were affected to do not filled those vacancies.

As per the Sri Lanka Atomic Energy Act No 40 of 2014, Atomic Energy Authority (AEA) had been ceased in existence since 31-12-2014. Establishment of separate two institutions on behalf of Atomic Energy Authority as per new Act was processed during the year 2014. The line Ministry (Ministry of Technology & Research) instructed to hold the recruitments temporary until the approval for the amendment SOR and relevant cadre positions will be obtained from Management Service Department (MSD). Cadre approval and approval for amended SOR of SLAEB have been received on 25/08/2015 and 04/12/2015 respectively. Actions have been taken to fill the existing vacancies as per the approved cadre following the procedure given in SOR.

Even though the applications have been called for plant operation manager in several times (for SLGC) not applied suitable person for it as low salary for that post when compared with relevant Qualifications required in the SOR.

### 5. Accountability and Good Governance

#### 5.1 Internal Audit.

Annual Internal Audit programme has been prepared and obtained Audit and Management Committee and Board approval every year.

Decide to carry out sample audit testing in the most operational functions of the institute as lack of sufficient staff to the Internal Audit Section.

Considering the increase of activities of the SLAEB and simultaneously to strengthen Internal Audit functions, MSD approval has been awaited to upgrade existing Internal Audit Post to Chief Internal Auditor position. Director MSD informed verbally that during restructuring process it can be considered. In the meantime considering the COPE directions to strengthen the Internal Audit Functions, New posts of Chief Internal Auditor and Assistant Internal Auditor (Technical) have been created at the preparation of new SOR for SLAEB facilitating another Managerial level cadre position for the Internal Audit Section. As a temporary measure, the Audit and Management Committee decided to take two Management Assistants for Internal Audit Division. This is in process.

## 5.2 Audit Committee

Audit Committee Minutes are being submitted to the Board to obtain approval for implementation of recommendations/ committee decisions.

## 5.3 Procurement Plan

Procurement plan has been revised in several times in the year as a result of new items purchased on account of listed items for emergency replacement and requirements.

## 5.4 Budgetary Control

Annual Budget is prepared using. Recurrent grant received from the Treasury and internally generated income is considered for the preparation of recurrent expenditure budget. Variances are taken place in the recurrent budget due to the following reasons.

1. Salary increases as per National Budget proposals.
2. Staff turn over
3. Fuel prices
4. Increase of breakdown of equipment
5. New R & D projects
6. Decrease of the generated income.

The above reasons are uncontrollable within the organization.

## 6. Systems and Controls

(a) to (e) and

(g) and (h)

A committee comprised of members of Senior Management Committee have been appointed by the Director General to study the current status and make recommendation to complete the task.

### (f) Human Resource Management:

As per the Sri Lanka Atomic Energy Act No. 40 of 2014, Sri Lanka Atomic Energy Board (SLAEB) was established on 01.01.2015. Presently, Schemes of Recruitments (SOR) are being prepared for the SLAEB considering the identified issues of previous SOR such as including grade promotion system, internal promotion scheme for the lower categories etc.

Approval of the MSD was obtained (on 04/12/2015) to use the SOR of Atomic Energy Authority to the Sri Lanka Atomic Energy Board with amendments until MSD approval will be obtained for new SOR. Actions have been taken to fill the existing vacancies in accordance to the currently approved SOR.



Chairman

Sri Lanka Atomic Energy Board

20.04.2016