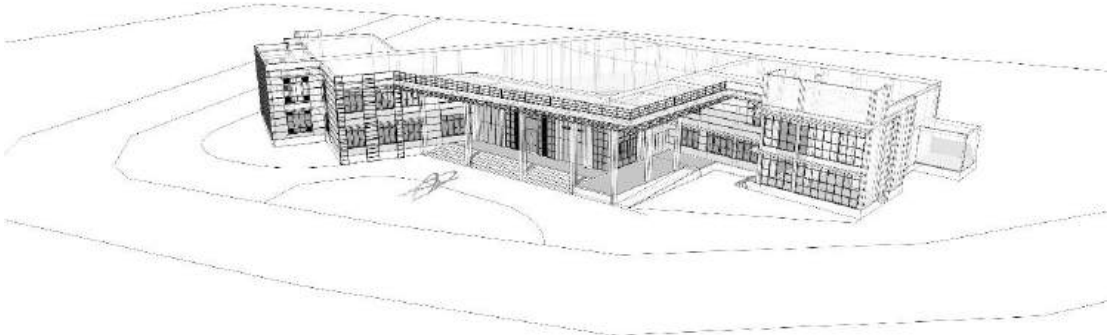




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வருடாந்திர அறிக்கை
ANNUAL REPORT
2021



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ஸ்ரீலங்கா ஆட்டோமிக் எனர்ஜி போர்டு
SRI LANKA ATOMIC ENERGY BOARD

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1.0 Sri Lanka Atomic Energy Board (SLAEB)

ABOUT US

Sri Lanka Atomic Energy Board (SLAEB) is a government institution which promotes the peaceful applications of Nuclear Science and Technology in Sri Lanka. It establishes necessary infrastructure and maintains existing facilities in the country by obtaining international cooperation. SLAEB provides a wide variety of services to the nation using that technology. In addition, the protection of general public and the environment against unwarranted exposure to ionizing radiation is also undertaken by SLAEB.

1.1 VISION

Sustainable Development of the Nation through Nuclear Science and Technology.

1.2 MISSION

Promote and encourage peaceful applications of Nuclear Science and Technology and utilize its benefits for socio-economic development of the country while ensuring safety, security and quality, and Provide radiation protection services to facilitate protection of workers, the public and the environment from exposure to unwarranted ionizing radiation.

The objectives of the Sri Lanka Atomic Energy Board are to:

- Promote and encourage the peaceful application of nuclear science and technology and provide services using such technology
- Conduct research on nuclear science and develop peaceful applications of nuclear technology for the purpose of achieving national objectives
- Promote and support innovations to ensure safety and security systems and quality for the peaceful uses of nuclear science and technology
- Provide radiation protection services to meet regulatory requirements relating to nuclear science and technology applications
- Engage in activities involving ionizing radiation and complementary techniques, for commercial or other purposes

1.2 The Director Board

The SLAEB is managed by a Board appointed in terms of Section 6 of the Sri Lanka Atomic Energy Act No. 40 of 2014. The Members of the Board for 2021 were:

Name	Position in the Board	Position / Profession
Prof. S. R. D. Rosa (from Sep. 2019)	Chairman	• Professor, Department of Physics, University of Colombo • Member of the Advanced Level Physics Question Paper Processing Board, from 1989 - 2003 and from 2005 - 2013 • President of the Institute of Physics (2004 - 2006), President of the Colombo University Science Teachers' Association (2000 - 2009) • Secretary of the University Teachers' Association (2006, 2007) • Consultant on Monitoring and Evaluation of New Physics Curriculum Implementation, (1995-1996) • Member/Consultant appointed by Ministry of Education for Physics Curriculum Development (2005 to 2007)
Dr. W Meegoda (from January 2020)	Member	• Consultant Radiologist to the Ministry of Health (over twenty years in Nuclear Medicine and Radiology) • Honorary Consultant Radiologist at Police Hospital since 2015
Dr. Jayasingam Jayasugittam (from January 2020)	Member	• Senior Lecturer in Medical Physics, Department of Nuclear Sciences, University of Colombo • Senior Lecturer, Department of Nuclear Sciences, University of Colombo - International Center for Theoretical Physics (ICTP) – since 2019
Mr H T Kamal Pathmasiri (from January 2020)	Member	• Consultant / Advisor to the Government - Sri Lanka Administrative Service (32 years) • Former Secretary of the Ministry of Provincial Councils and Local Government from 2015-2019 (Chief Executive Officer / Chief Accountant to the Ministry) • Former District Secretary of Colombo and Kalutara • Former Director General of Sri Lanka Institute of Higher Technology, • Former Chairman / Board Member of Sri Lanka Local Government and Local Credit Development Fund, Urban Development Authority, Sri Lanka Tourism Development Authority, National Education Commission, Sri Lanka Institute of Development Administration (SLIDA) and • Council Member of the University of Sri Jayawardenepura

Dr. Sunil Gamage (January 2020 to September 2021)	Member	• Former Honorary Consul General of Japan for Sri Lanka • Visiting Professor of International Relations at Hokkaido Bunkyo University, Japan - since 2014 (Honorary Doctorate) • Chairman of Sri Lanka Trade and Economic Center in Japan - since 2013 • Director of Japan Cultural and Social Service Association - 2015 • President of Japan Sri Lanka Association - since 2008 • Executive Director of Japan Sri Lanka Friendship Association - 2007 • Director of International Shotokan Karate Asia, Director of Nippon Technology Promotion Cooperation
Mr. Arosha Rodrigu (January 2020 - September 2021)	Member	• Chartered Accountant
Mr K D Sunandalal (January 2020 - September 2021)	Member	• Consultant, Strategic Enterprise Management Agency
Mr Kavinda Dissanayake, (from Spe. 2021)		• Director, National Agricultural Skills Council, since 2021 • Consultant, Export Development Board, since 2021 • Managing Director, Ceylon Agricultural Product Management Corporation, since 2019 • Coordinating Secretary, Ministry of Agriculture (2016)
Mr. Rasith Wickramasinghe (from September 2021)		• IT SYSTEM ENGINEERING - CBL INVESTMENTS PVT LTD. (2011-2013) • Principal Electrical Engineer at O'Donnell Griffin (Australia) (2008-2009) • Automation Engineer at GE Water and Process Technology (Australia) (2006-2008) • Production Engineer at Tridon Australia Ltd (2005-2006)
Mr. Malith Perera, (from September 2021)		• Director - Colombo Commercial Fertilizer Company Limited and Lanka Cement Company • Colombo Commercial Fertilizer Company Limited and Lanka Cement Company Limited • Executive Director of Sethmin Motors Pvt • Managing Director of International Cooperation • Founder of Neesh Holdings Pvt
Mr. H P Jayananda (from January 2021)	Observer	• Additional Secretary (Administration & Development) - Ministry of State for Development of Solar, Wind and Hydro Power Generation Projects
Ms Rajika Gankewela (from July 2021)	Observer	• Additional Secretary (Administration and Development) - Ministry of State for Development of Solar, Wind and Hydro Power Generation Projects

Senior Management

Name	Title	Qualification
Mr. T.M.R. Tennakoon	Director General	B.Sc. (Phy. Sp). Hons -Col.) M.Sc. (Nuclear Sc. -Col.) M.Phil. (Material Eng.- Mor.)
Mrs. Champa Dissanayaka	Director - Life Science Division	B.Sc. (Agri)(Ruhuna) M.Phil. (Nuclear Sc.) (Col.)
Dr. Viraj Edirisinghe	Director - Industrial Applications Division / Actg.Director - Sri Lanka Gamma Centre	B.Sc. Hons. (Peradeniya) M.Sc. (Nuclear Science) Col. Ph.D. (Isotope Hydrology) (Peradeniya)
Mr. Prasad Mahakumara	Radiation Protection and Technical services Division	B.Sc. Hons (Peradeniya) M.Sc. (Nuclear Science) Col.
Mr. Anura Jayathilaka	Director-National Centre for Non-Destructive Testing	B.Sc. (Peradeniya) M.Sc. (Material Sc.) Mor.
Mr. H.M.N.R. Bandara	Director- International Cooperation Division	B.Sc. (Sp.) UOS M.P.M.(SLIDA)
Mrs.Manel Chandrasekara	Director -Administration Division	B.Sc. (Sp.) Col. M.P.M. (SLIDA) MPA(PIM) USJP
Mr. D. Asarapperuma	Director - Finance Division	MBA(Aus), ACMA(UK), CGMA(US), DBFA(ICASL)

2.0 Review by the Chairman



It is with great pleasure that we present the Annual Report with the Financial Statements of the Sri Lanka Atomic Energy Board (SLAEB), for the year 2021. The Divisional activities of the SLAEB and financial highlights during the year 2021 are reported as below

2.1 Radiation Protection and Technical Services Division

The main role of this division is to provide the necessary radiation protection services to prevent radiation workers, the general public and the environment from being unnecessarily exposed to radiation. This division provides radiation protection services to meet regulatory requirements and technical services to ensure the safety and security of the nuclear technology in the country. Even during the COVID-19 pandemic, the division has continuously operated to provide necessary services without any delay or interruption.

The Nuclear Instrumentation Section (NIS) of the RPTSD has designed and developed commercial-level low-cost radiation measuring equipment. During the year 2021, 8 units of GM counting system were upgraded to newer models. Also, a portable, low-cost personal radiation monitor for the use of nuclear security purposes was designed. The maintenance of national nuclear early warning system was successfully done by replacing eight (08) repaired radiation monitoring stations. This section provided necessary assisting services for repair and maintenance of nuclear instruments in order to derive benefits of nuclear technology to Sri Lankan community. The number of services carried out during the year 2021 was 29.

The island-wide services in Dosimetry Calibrations & Personal Monitoring were provided with ISO 17025-accredited laboratories. In 2021, the laboratories have upgraded their accreditations to be compatible with the latest international standards of ISO/IEC 17025:2017.

During the year 2021, calibration services were provided for 108 radiation monitoring equipment. In addition, personal monitoring services were provided to protect more than 2,235 workers free of charge or with a minimum charge.

As a special consultation service, the division has also developed the “National Guideline of Radiation Safety for Health Sector” and the “Comprehensive Terms of Reference (ToR) for Radiation Protection Officers” on the invitation of the National Cancer Control Program (NCCP) and the World Health Organization (WHO). Three-day training program on Basic Radiation Protection

with hands-on experience on protection components was conducted to improve the technical skills and capabilities on radiation protection of the radiation workers.

It also monitors environmental radioactivity and measures radon (a naturally occurring radioactive gas), and continues to provide workplace monitoring services where radiation is applied throughout the year.

Ensuring the safety of the citizens, the division also provides expert services for sustaining the nuclear security regime in the country. A significant contribution has been provided to strengthen up the nuclear security detection architecture identified under the Integrated Nuclear Security Plan (INSSP) of the country. Especially in ports of entry (Port of Colombo, Bandaranaike International Airport) and major public events through the dissemination of knowledge and providing training and consultation services to Sri Lanka Customs, Airport Aviation Security, Police and Tri-forces.

The Division also maintains the National Nuclear Disaster Early Warning System and the Central Disused Radiation Source Storage Facility.

The Division is dedicated to providing island-wide, non-profit, research-oriented services, but the Division has generated Rs. 21.85 Mn. income during the year 2021 which is a 32% improvement in the income compared to the previous year. Also, the division has provided free-of-charge services of around Rs. 2.0 Mn. during the year.

2.2 National Centre for Non-Destructive Testing

The objective of NCNDT is the sustain reduction of defects in metallic & non-metallic products, assemblies, civil constructions, etc. and hence to improve the quality of such products in the country by using NDT and related technologies. NCNDT launched its activities mainly in 04 directions to achieve its objectives. Those are;

- i) Training: Training courses, workshops, seminars, lectures, industrial training, internship training etc., qualification and personnel certification
- ii) Inspection: Testing and inspection services
- iii) Research: Long term and short-term research activities related to academic and industrial problems
- iv) Development: Product/technique development and industrial / infrastructure development

The Training Unit of NCNDT annually conducts certification training courses as per IAEA TECDOC 628. The qualification and certification activities are carried out by Certification Body for NDT as per ISO 9712 which has been accredited according to ISO 17024 by Sri Lanka Accreditation Body. The total number of NDT personnel who attended workshops, training courses, and examinations and obtained certifications in 2021 was 133.

In addition, NCNDT provided NDT inspection services to industry in order to detect defects in

machinery and metallic components to ensure industrial safety and to improve industrial productivity. Totally,

NCNDT provided 205 NDT inspection services to Government and Private Sector industries in 2021. Targeted total income for the year 2021 from NCNDT was Rs. 15.75 million and NCNDT earned Rs. 16.98 million from all above activities (without VAT and rental fee from Sri Lanka Regulatory Council).

In addition, under research activities, a few students from universities attended short-term research activities related to their academic work.

NCNDT maintained successfully the accredited National Certification Body for qualification and certification of Non-destructive Testing personnel (NCBNDT) conforming to requirements of the ISO 9712 and ISO 17024 through-out the year.

Four NDT methods/Labs on Magnetic Particle Testing, Liquid Penetrant Testing, Ultrasonic Testing and Concrete Testing have been accredited as per ISO/IEC 17020:2012 and maintained this accreditation status.

IAEA TC project SRL 1009 for 2016-2019 to strengthen the NDT capability of NCNDT was continued successfully throughout the year.

2.3 Sri Lanka Gamma Centre

Sri Lanka Gamma Centre (SLGC) which is the only Government owned Multipurpose Gamma Irradiation Facility in Sri Lanka and operates since 2014 in Biyagama Export Processing Zone.

This Gamma facility is continuous, carrier type one which was loaded with initial activity of 250 kCi Cobalt-60 source. The Cobalt-60 starting activity as on 01st January 2021 was 170 kCi. The facility is operating for 24 hours with experienced and dedicated operational staff to utilize its maximum benefits.

Due to increasing demand from the existing customers, SLGC upgraded its strength of the source by another 250 kCi in April 2021. The total source activity as at 2021.04.15 was 413.5 kCi. Even though previous source loading and dose mapping activities were carried out with the assistance of Experts from Board of Radiation and Isotope India (BRIT India), source loading this time was done by the SLGC staff as the unavailability of BRIT experts.

SLGC focuses on providing maximum benefits to the country, by encouraging and providing irradiation services to industries, entrepreneurs, research institutes etc... in all the applicable aspects of gamma radiation. Mainly gamma irradiation service has utilized for sterilization of medical products, sterilization of packaging materials, microbial disinfestation and insect control in food and medicinal herbs, python-sanitary treatments, mutation breeding, material modification and sterile insect technique for disease control.

For irradiation purpose SLGC has Commercial conveyor & Auxiliary conveyor (sample conveyor) which can operate independent with each other. Commercial conveyor has mainly dedicated for customers, who initially conduct product validation studies and engaging in continuous supply. Auxiliary conveyor, which is a remarkable feature of the irradiator, is facilitating irradiation of samples for Research & Development purpose of Researchers from universities & research institutes and Industrialists from various industries having non-continuous or small volumes. Further sample conveyor is being excessively utilized for the in-house calibration activities & inter-comparison studies.

Through Commercial scale operations, the SLGC was able to earn Rs. 58,636,001.60 during the year 2021. Auxiliary conveyor (sample conveyor) irradiation generated Rs.331,858.88 and total income for the year 2021 is Rs. 58,967,860.48

SLGC is providing irradiation services by sterilization of surgical gloves required for all the Government hospitals in Sri Lanka having a big impact on Country's economy saving considerable amount of foreign exchange needed for importation of sterilized gloves while uplifting local industries. As Irradiation service is readily available, several entrepreneurs-initiated manufacturing facilities while some are irradiating imported finished products from SLGC and some are in the process of initiating manufacturing facilities for syringes, gauze, making opportunity for man power utilization & capacity building within the country.

SLGC is equipped with three main laboratories; Dosimetry Laboratory, Food Technology Laboratory & Microbiology Laboratory.

Dosimetry Laboratory serves as the quality assurance laboratory which assures the dose delivered to the products which are being irradiating in the facility.

Microbiology Laboratory and Food Technology Laboratory provide initial validation services, microbiology testing services and other testing services while all the laboratories provide research facilities.

Assurance of safety and security and compliance with international guidelines is crucial for SLGC, as a commercial irradiator, in order to assure the safety of the work force, gamma source and the environment while providing required security to the source.

Regular inspections by Sri Lanka Atomic Energy Regulatory Council (SLAERC) ensures the effectiveness of safety measures which have been successfully embedded with periodic safety checks, medical surveillance programmes, personal dose monitoring programmes etc. SLGC participates with other radiation protection programs that conduct internationally or locally to uplift its safety and security culture.

SLGC, as a service provider enriches its quality of the service by adhering to international standards and implementing relevant quality management systems; ISO 9001 and ISO 13485 (*Medical devices - Quality management systems -Requirements for regulatory purposes*)

SLGC provides awareness on gamma irradiation technology and applicable services through periodic customer discussions, awareness programmes etc... Knowledge dissemination on the applicability of

gamma irradiation in different industries achieves through research conducted collaboration with universities and research institutes.

2.4 Life Sciences Division

Life Sciences Division (LSD) is responsible for providing efficient and effective analytical services for regulatory requirements, customer requests and R & D activities based on Nuclear Analytical Technique in compliance with international standard.

4401 samples of imported milk powder and 269 samples of exported tea and other products were tested for radioactivity measurements using Gamma spectrometry. 174 samples were tested for detailed radio activity measurements. 279 of various sample matrices of soil, mineral archaeological samples, gems, alloy etc., were analysed for multi elemental composition using X-Ray Fluorescence spectrometry, 39 waste water samples were tested for gross Alpha and Beta measurements and 130 samples for stable isotopes were analysed using Isotope Ratio Mass Spectrometry technique during the year 2021.

Radio activity monitoring program was conducted for imported and locally produced milk powder in the local market. 35 imported milk powder samples and 11 locally produced milk powder samples were tested randomly under the programme.

Gamma Spectrometry Laboratory maintained Quality Management System (QMS) as per the ISO IEC 17025:2005 International Accreditation for testing laboratory, since 2006. QMS was upgraded including all the documents and processes as per new version of ISO IEC 17025:2017 in February 2021.

Rs. 66.68 Mn. of income was generated by analysing and report issuing for a total number of 5292 samples by the LDS laboratory from nuclear analytical testing services.

In addition to providing nuclear analytical testing service, the LSD has engaged in various nationally important projects on the application of Nuclear Science & Technology for Life Science Applications and Food and Agriculture.

- i. Pilot project on Geochemical Approach to Verification of the Origin of 'Ceylon Tea' (collaborative institutes – Tea Research Institute and Sri Lanka Tea Board)
- ii. Enhancing Wetland Management and Sustainable Conservation Planning -RAS7037 (Collaborative project with Wayamba University)
- iii. Development of an organic food authentication technique and determination of fruit juice adulteration using stable isotopes
- iv. Assessing and Improving Soil and Water Quality to Minimize Land Degradation and Enhance Crop Productivity Using Nuclear Techniques (collaborative research with Natural Resources Management Centre, Department of Agriculture)

- v. IAEA CRP 21090, D5.20.40 -Development of Rapid Screening Methods to Assess the Authenticity, Safety and Quality of Imported and Locally Produced Milk Powder in Sri Lanka

2.5 Industrial Applications Division

Industrial Applications Division (IAD) is currently engaging in research and development activities as well as related services in connection with scientific disciplines named isotope hydrology, radiation processing and isotope ecology. In addition to that school education programme is coordinated by the IAD to make teachers and school children aware on nuclear technology.

There are two sub-Sections in IAD; Isotope Hydrology Section and Radiation Processing Section. Isotope Ecology and School Education programme are newly added to the IAD and they will be developed up to sub sections in the Division in future.

Under the above scientific disciplines, projects related to environmental assessment and protection, particularly related to water issues are conducted. Also, material development for industry, health, agriculture and archaeology is carried out using radiation technology. Meanwhile, IAD provides related consultancies and analytical services for the stakeholder institutes and other respective research institutions and organizations. Mostly the research projects are conducted in IAD in collaboration with national and international institutes/organizations to fulfil the national needs.

In the year 2021, COVID-19 pandemic situation was badly affected the research activities in the Isotope Hydrology Section. Field sampling was completed for the water resources management project at Malwathu Oya and lower Mahaweli basins. River water samples (Kelani) for the Global Network of Isotopes in Rivers; GNIR / rainwater samples (Colombo, Katugastota and Jaffna) for Global Network of Isotopes in Rain, GNIR were collected in monthly basis. Water samples collected in all the above projects could partially be analyzed at Isotope Hydrology Laboratory due to the disturbance that occurred in the pandemic situation for the continuous operation of the analyzers.

During the “work from home” period, most of the document work related to accreditation of major ion analysis using Ion Chromatography were completed.

Technical failures and maintenance issues of the sample analysers occurred but the service and repair of such instruments were delayed significantly as import/export and travel restrictions were imposed in the country. A new project was started on “establishment of database of water sources of bottled water industry”. For this study, 17 commercial-scale bottled water suppliers were made aware and agreed to send water samples monthly from the sources.

Developing and upscaling of radiation-grafted materials for water treatments, application of radiation techniques for conservation of paper and organic artifacts, reutilizing and recycling polymeric waste through radiation modification and development of oil/chemical adsorbent using gamma radiation-induced grafting technique are the main research projects conducted by the Radiation Processing Section in 2021, aiming development and quality enhancement of different materials.

Design of the project document submitted to the IAEA's Regional Cooperative Agreement Programme for a new regional project on "Increase of Crop Productivity under Drought Conditions by Using Isotope Techniques to Optimize Water Usage" under the isotope ecology programme of IAD was carryout in 2021. The project was approved by the IAEA Board of Governors to be implemented from the year 2022 subjected to the availability of extra-budgetary supplements. This is the first-ever IAEA RCA project in which SLAEB is functioning as the lead country.

Several modifications to the available sample preparation line for plant water extraction was done with the help of the glass blowing unit of Kelaniya University. Preliminary steps were taken to procure a cryogenic vacuum distillation setup. A smart greenhouse system was established in the NCNDT premises during the year 2021.

Two international webinars were conducted incorporation with the International Atomic Energy Agency for teachers and school children from the Asia and the Pacific region under the School Education programme in 2021. The first webinar was conducted by Prof. S.R.D. Rosa, Chairman of SLAEB on the topic of "Basics of Nuclear Science - Radiation, radioactivity and nuclear reactions". The second webinar was conducted by Dr Viraj Edirisinghe, Director of IAD on the topic of "Isotope Techniques for Water's Secrets: Basic Principles and Applications of Isotope Hydrology". Collaboration was made with E- Thaksalawa of the Ministry of Education.

The Sinhala E-book on Nuclear Science & Technology for secondary school students was developed on the E-Thaksalawa platform and released for student enrolment. Convinced the policymakers who are responsible for the upcoming secondary curriculum reformation of the National Institute of Education. It was decided to develop an elective module on Nuclear Science & Technology for grade 11.

2.6 International Cooperation Division

The International Cooperation Division of the Sri Lanka Atomic Energy Board (SLAEB) functions as the National Liaison Office to the International Atomic Energy Agency (IAEA) which is widely known as the world's "Atoms for Peace and Development", an organization within the United Nations family. The International Cooperation Division coordinates activities with the IAEA in order to obtain technical assistance under its Technical Cooperation (TC) Programme.

The IAEA delivers its technical assistance to the Member States, in the forms of Fellowship, Scientific Visits, Expert missions, equipment, chemicals, etc., under various projects.

Despite the COVID19 pandemic situation Sri Lanka was able to obtain several online expert assistances in order to enhance to capabilities of Sri Lankan Scientists and Technical personnel. Five opportunities were received by scientists, engineers and researchers in related national institutes to participate in overseas training, workshops, meetings, conferences etc. and 98 opportunities were also received by our scientists, and technical personnel to virtually participate in such events which were organized under regional and inter-regional Technical Cooperation projects of IAEA.

Six (06) national Technical Cooperation projects which include 1,728,607.00 Euro worth of technical assistance (Approximately SLR 398 million) were approved to be received during 2022-23 TC cycle.

Upstream planning for next Technical Cooperation (TC) cycle 2024/25 was started in coordination with respective national institutes of Sri Lanka where nuclear technology is utilized for peaceful purposes, in order to obtain project concepts to be considered for next TC cycle.

The Division coordinated with IAEA to obtain technical assistance during the X-Press Pearl incident which was is the worst maritime disaster to have struck Sri Lanka. It has had a significant impact on Sri Lanka's sensitive coastal environment, local communities and the economy. The IAEA made arrangements to provide laboratory items and consumables which are required to check the prolusion occurring in the seawater. the IAEA even arranged for an expert to come to Sri Lanka for further inspections of the disaster but it could not materialize due to COVID pandemic situation prevailing during the time.

Coordination activities were made in order to conduct Interrelated Nuclear Infrastructure Review (INIR) mission which is designed to assist Sri Lanka in evaluating the status of the national infrastructure for the introduction of a nuclear power programme. As a clean and green energy source, nuclear power meets the National Agenda according to the carbon neutralized emission concept.

The Division also coordinates activities with other international organizations such as the Regional Cooperative Agreement Regional Office (RCARO) in South Korea, Institutes functioning under the Ministry of Education, Culture, Sports, Science and Technology (MEXT) in Japan, International Centre for Theoretical Physics (ICTP) etc. to obtain technical assistance to develop nuclear technology in the Country.

Coordination of bilateral discussions with IAEA Member States (MS) in order to see the possibility of obtaining technical support to Sri Lanka and coordination of Nuclear Knowledge Management (NKM) activities are other important functions rendered by this division.

2.7 Administrative Division

Administrative Division of Sri Lanka Atomic Energy Board is responsible for the administration of the same for the benefit of the country and is subject to the law of the Act and other legal requirements and regulations applicable to the Government. Efficient management of office systems, general administration and procurement are the key areas within the scope of this division.

This division is responsible for preparing annual administrative reports, human resource development, maintenance of non-scientific equipment and buildings, presenting employee updates, submitting capital budget updates to the Treasury, and assisting in the preparation of specific documents and reports.

In addition, the Division is responsible for establishing efficient ICT systems, managing utility procurement processes, managing utility services and providing other support services requested by the scientific and non-scientific divisions of SLAEB.

No recruitments were made under Human Resource Management in the year 2021 and 06 grade promotions were made. There have also been 10 retirements. There have been no resignations during the year, with 13 confirmations and 141 pay rises.

In addition, 50% of the local training was done (the COVID 19 epidemic failed to reach the maximum target).

Under the general administration of the institution, activities such as maintenance of security and cleaning services, provision of transport facilities, handling of postal services, maintenance of facilities such as electricity, water, telephone etc., awareness of internal and external circulars, payment of overtime and leave allowances etc. were done as planned formally.

In addition, 88% of planned purchases were completed.

2.8 Financial Highlights

Income from the external customer services provided in 2021

(Values in Rs.mn.)

	Income Source	Target	Actual
1	Life Science Division (LSD)	70.0	66.7
2	Radiation Protection and Technical Services Division (RPTSD)	19.0	21.7
3	Sri Lanka Gamma Centre (SLGC)	65.0	59.0
4	National Centre for Non-Destructive Testing (NCNDT)	27.9	25.3
5	Other Income	5.3	3.9
	Total	187.1	176.6

Note:

Industrial Applications Division carries out Research & Development activities and related services using isotope and radiation technology with different scopes of nuclear technology applications. However, these activities are not directly involved in generating income to the institution, but the Division assists the other institutions in settling their various critical technical difficulties using Nuclear Technology by reducing the economic losses to the country mentioned as below.

Under the Isotope Hydrology programme, assessment of groundwater behaviour in Malwathu Oya and Lower Mahaweli basins were continued in 2021 for the need of groundwater management in the

area for the benefit of the rural community. Also, water leakage in the irrigation tank in Laggala and spring water origins across the Colombo-Kandy expressway project was investigated in 2021.

Under the [Radiation Processing programme](#), the research activities on the development of oil absorbent for application in oil spills in water bodies, development of radiation methods for degradation of pharmaceutical waste, development of protecting layer for archaeological artifacts, etc. were continued in 2021.

In addition to that, research was started by the [Isotope Ecology programme](#), in 2021 to study the optimum water requirements of different agricultural crops in a newly established greenhouse at the NCNDT premises. This will benefit agriculture water management in the future by controlling excess water use, particularly in the dry zone areas in the country.

The Government allocates a huge amount of money annually to supply drinking water for the general public. In addition to that, a similar attempt is taken to supply irrigation water for the agricultural needs in the country. The Isotope Hydrology programme under the IAD was directed in 2021 to support the Government in managing the groundwater sources in selected river basins (Malwathu Oya and Lower Mahaweli) by assessing the potentiality of such water sources in terms of drinking and irrigation needs.

Also, IAD supported finding the origin of water leakages in two main development projects in 2021 (i) the construction of a reservoir in the Laggala area and (ii) construction of the Colombo-Kandy Expressway.

The finding helped to revisit the original plans and minimize the economic losses. Isotope techniques in hydrology and ecology could reveal the behavior of the natural environment and support saving money by optimizing the use of natural resources.

In addition, Radiation Processing techniques were used to develop an oil absorbent for the use in accidental oil spills for environmental protection purposes. This technology would lead to reducing the economic impacts of such hazards by supporting the remedial measures.

I wish to thank the Members of the Board, Senior Management and the workforce of SLAEB for their cooperation, in carrying out the above programmes successfully even with the competitive market environment.



Prof. S. R. D. Rosa

Chairman

Sri Lanka Atomic Energy Board

3.0 Director General's Message



Nuclear Science and Technology (NST) can help to find solutions to many of the problems people face daily in life. When used safely and securely NST is effective in every aspect. Therefore, it is necessary to make available the facilities in Sri Lanka to harness the wealth of NST.

Since its establishment in 1969 our institute has been engaged in developing infrastructure facilities needed for implementation of NST in Sri Lanka and brought about significant improvements in the institutional activities as of now.

SLAEB has a broad range of responsibilities with a strategic mission of providing and encouraging peaceful applications of nuclear technology and utilize its benefits for socio-economic development of the country while protecting radiation workers, the general public and the environment from harmful effects of ionizing radiation.

Herewith, I am proud to present the SLAEB's 2021 Annual Report. The report summarizes the progress of the year 2021 and its financial status. The year 2022 for the SLAEB will be a challenging one for re-establishing the services of the institution after the critical COVID-19 epidemic situation. However, we will remain committed towards continuing to develop this organization as a high performing organization in Sri Lanka.

Overall, I believe that the SLAEB was successful in achieving its objectives for the year 2021 although we faced terribly to the COVID 19 epidemic situation, and we look forward to another challenging yet rewarding year of success.

A handwritten signature in blue ink, appearing to read 'T.M.R. Tennakoon', with a horizontal line drawn underneath it.

T.M.R.Tennakoon
Director General
Sri Lanka Atomic Energy Board

4. Audit and Management Committee Reviews - 2021

The Audit and Management Committee of the Sri Lanka Atomic Energy Board for the year 2021 consisted with the following members.

- | | |
|---------------------------------|--|
| a) Mr.Kamal Pathmasiri | Chairman to the Audit and Management Committee |
| b) Mr.Arosha Rodrigo | Committee Member (Up to 23-06-2021) |
| c) Dr.Jayasingam Jeyasugiththan | Committee Member |
| d) Mr.Kavinda Chanaka | Committee Member (From 09-11-2021) |

Above four members are Members of the Board of Directors of Sri Lanka Atomic Energy Board (SLAEB) and possess a wide range of experience in Administration, Finance, Scientific and Business Administration field respectively.

A representative of the Auditor General, Audit Superintendent (Mrs.M.W.Gunawardena) attended meetings as observers. Chief Internal Auditor of the Ministry of Power and Energy (Mrs.B.A.D.A Abywardena) also attended meetings as observer representing Secretary of the State Ministry Solar Power, Wind & Hydro Power Generation Projects Development from 09th November 2021. Internal Auditor acts as the convener of the Audit and Management Committee and assist the Committee through the submission of relevant reports etc. to assist in the deliberations, etc. The Board Secretary function as the Secretary of the Audit and Management Committee. Mr.T.M.R.Tennakoon, Director General and Mr.Asarapperuma, Director (Finance), Director (Admin) and Other Divisional Directors of each divisions also participate in committee Meetings as decided by the Audit Committee.

Four Audit & Management Committee meetings had been held during the year 2021 on following dates and summary of the Committee recommendations/ decisions has been attached with here. (09th March, 23rd June, 09th November and 29th December 2021)

Tasks of the Committee

Having considered the objectives defined in the Public Enterprise Circular No. PED 55 dated 14.12.2010, Public Enterprise “Guideline for Good Governance” and National Audit Act No 19 of 2018, the Audit Committee made effort to achieve the objectives, mentioned in the above Circulars and Acts.

The Committee should review the adequacy timing and existence of the internal control systems of the SLAEB and in compliance on operations, adequacy of disclosures in financial reporting systems. It also should ensure consistence of accounting policies adopted and compliance with the financial reporting system including Sri Lanka Public Sector Accounting Standards used for preparation of financial statements. Department of Public Enterprises issued new Guideline on Corporate Governance for State Owned Enterprises including guidelines for Audit Committee functioning with

effect from 2021-11-16. However, Board of Directors approved to implementing that Guidelines on 25/11/2021.

Work Performed by the Audit Committee in 2021

- The committee made effort to fulfilled the requirements and the guidelines sent by the Department of Public Enterprises and National Audit Act in conducting Audit and Management Committee Meeting.
- The Committee granted approval to Internal Audit Plan 2021 at the Committee meeting held on 09th March 2021.
- 2022 Draft Internal Audit Plan has been submitted to the Committee meeting held on 09-11-2021 and Committee instructed Internal Audit to finalized the Internal Audit Plan 2022 after getting completed 2022 Budget, Action Plan and Procurement Plan etc.
- Action has been taken to respond unresolved audit queries and management issues during the year.
- Arrangement have been made to set up monitoring system to answer the audit queries without any delay.



Mr.H.T Kamal Padmasiri

Chairman to the Audit and Management Committee

Meeting Date / Agenda Item No	Matter/Main issues discussed at the meeting	Audit & Management Committee Recommendations for Corrective Actions
Meeting Date- 2021-03-09 Agenda Item No - 2021-01-02	1.Item No.2.2 (අ), of the AG’s Report-2019 (Establishment Code XII) (<u>Matters Arising from Minutes</u>) The AMC has questioned the statement of “Audit Queries were not gone through the Internal Auditor and proper channel” The Director General (DG) explained that there is a complaint from the Government Audit since the SLAEB is not providing replies for the Audit Queries on due time. Therefore, the Director of the relevant Divisions directly sends their replies to the DG and then finalizes the answers.	The Chairman of the AMC has emphasized that it should be taken the supervision of the IA to get finalize the Audit Queries and that is the duty of Internal Auditor (IA). Therefore, Audit Queries should be going through IA and IA is liable to attend those on time.
	2. Item No.3.6 (ආ), of the AG’s Report-2019 and Item No.3.8 of the Management Responses (Recurrent Expenditure) The committee observed that the Procurement Plan was submitted on 26-01-2021 and the HR Plan was submitted on 08-03-2021. Internal Auditor explained that the Procurement Plan, Action Plan, and the Budget are not in line with the Corporate Plan 2021-2023 as well as further explained that projects, that have already started are not included in the Corporate Plan and those projects should be included in this plan. Out of the requested information and documents regarding the ongoing projects, only part of the documents is received. Therefore, IA is not in a position to complete the Internal Audit Plan 2021.	The Chairman of the AMC explained that the role of the IA is not only to evaluate the Corporate Plan and IA’s participation should also be taken for the preparation of the Corporate Plan. As such, the Chairman of the AMC instructed DG to submit the corrected Corporate Plan to the next Board meeting.
Agenda Item No - 2021-01-03	<u>Internal Audit Plan-2021</u> The Internal Audit Plan 2021 ought to be submitted to the AMC and the Board in December 2020. However, there was a serious delay in submitting the Internal Audit Plan. The reasons have been given for the late submission of the Internal Audit Plan 2021 to the AMC, by submitting IA Report No IASR/2021/01.	The Chairman of the AMC instructed IA to submit the Internal Audit plan-2021 to the next Board meeting and also advised DG to provide all the necessary documents to the IA.

Agenda Item No - 2021-01-04	Auditor General Report 2019 according to section 13 (7) of Finance Act with previous Committee decisions and management responses. Committee discussed and reviewed above year AG's report including undermentioned highlighted areas. 1.4.1 (අ) Presenting the error amounts of gratuity provision and gratuity payment for the year 2019 to the Financial Statements. 1.4.1(ආ) Differences between Asset Register balances and financial statements Asset schedules. 1.4.1(ඇ) Differences of depreciation amounts between Asset Registers and financial statements assets schedules. 1.4.2 (අ) Obsolete Stock included in the inventories 1.4.2 (ආ) Unusable Stock 1.4.2(ඇ) Useful life time of Fixed Assets are not reviewed annually. 1.4.2(ඈ) There is no procedure to calculate Employee Gratuity 1.4.3(ඇ) Did not consider the VAT amount of NCNDT Construction 1.4.4 Transactions which were made without authorization. Member of the subcommittee (Mr.Kamal Pathmasiri) on Administrative and Audit	The Chairman of the AMC instructed to complete the column of the recommendations of the AMC indicating in the AG's report. Committee Agreed with the issue pointed out by the Auditor General. -Do- -Do- Chairman of the AMC instructed to settle this matter within two weeks. Board approval has been obtained and referred to the line Ministry. It has already decided to conduct the Board of Survey for the year 2021. It was decided to continue the previous manner. The Committee agreed with the replies given by the management. In comparison with the present and previous SOR, there is a possibility to equivalent
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	matters, Staff Salary Anomalies of the SLAEB explained that he wants to peruse the salary of Mr.Silva and therefore directed Director-Administration to submit salary report regarding Mr.Silva. Further, he explained that as per the SOR the present (from 2011, as amended by 2015) recruitment level of the SO is the executive. However, previously the recruitment level of the Scientific Officers was grade IV and that is not an executive level. 1.6 (අ) (i) Finance Regulation 128 (1) (ඈ) General Responsibility of Accounting Officers. 1.6 (ඈ) Public Finance Circular (Public Finance Circular No: 30/94 dated 1994.04.20) The Audit Query has been received in this regard and the Chairman of the SLAEB, instructed IA to prepare a proper procedure. 1.7 (අ) CRP Projects Progress 3.1(අ) Preparation of MOP 3.1(ඈ) Transportation Expenses	present recruitment criteria of the SO with the previous special degree only. Therefore, it can be made endeavours to equivalent with the SO's present recruitment level (executive) only on the special degree holders of the previous, as personal to them basis. The Chairman of the AMC informed that he has already settled these two matters (No.1.6 (අ)(i)). The Chairman of the AMC instructed DG to settle this matter by way of conducting a formal meeting with the Director General of External Resources. The Chairman of the AMC indicated that the reply given by the SLAEB should be certain. The Chairman of the AMC indicated that the reply given by the SLAEB should be certain and AMC directed Director Administration to send a letter again to the Public Enterprises asking approval for the MOP. The Chairman of the AMC directed Director General to recover that money from relevant officers.
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	3.4 (අ) Not carried radiological testing of imported milk powder available in the market. 3.5(ආ) Not following the Shop and Office Act regarding the Employee's leave 4.3 (ඇ) Not planning to develop the market share of SLGC 4.3 (ඈ) (i) & (ii) Progress of Action plan	.The Chairman of the AMC directed to add the number of total samples, which were checked up to December 2020. The Committee Chairman said this issue has been corrected. The Chairman of the AMC informed that he has already settled this issue The Chairman of the AMC confirmed the observation given by the AMC at their previous meeting. The Chairman of the AMC informed IA to get clarify the activities mentioned in section 4.3 (ඈ) (i) & (ii) in the AG's report from the Audit Superintendent.
Agenda Item No - 2021-01-05	<u>Internal Audit Reports 2020</u> Internal Audit Observation in respect of staff Medical Insurance Scheme-2020 The Director Administration has pledged to submit the answer to these matters by the next AMC.	---
Agenda Item No - 2021-01-06	BP No 2021-01-06 "Change of Accounting Policy on calculation provision for Gratuity" (Retirement Benefit Obligation for the Employees of Sri Lanka Atomic Energy Board – SLAEB) It was requested to change Accounting Policy on stipulated in Accounting Standard which recommended by the Government Audit. As such, Government Auditor has agreed to continue the same practice considering the cost involved and the government Own Institution.	The Committee decided to convey this decision to the Ministry and also decided to obtain approval from the line Ministry to continue the same practice considering the cost involved and the Government Own Institution.

Agenda Item No - 2021-01-07	01) <u>Progress of implementing, recommendations made at the Ministry Audit and Management Committee Meeting was held on 2019-12-20 and meeting minutes</u> Committee discussed and reviewed above progress report including undermentioned highlighted areas	
	01. Submitting Annual Report 02. Board of Survey 03. Unsettled Debtors for the long period 04. Payment for OT allowances and Special Allowances 05. Dissolution of Atomic Energy Authority and transfer assets and liabilities.	The Chairman of the AMC explained to the D/Finance & D/Administration that the IA's observations can be issued as internal memos.
	06. Replying Progress of the Internal Audit Queries	The Chairman of the AMC explained that this matter has already discussed under the Board paper Item No. BP 2020-09-135 and requested Representative of the Auditor General to peruse the relevant minutes.
	07. (i) Pre audit of SLAEB vouchers (ii) Not Convey the Audit & Management Committee according to the Circular	
	08. Progress of the replying government Audit Queries.	The Chairman of the AMC stated that the replies for the Audit Queries should be submitted to the Auditor General in a timely.
	09. Sri Lanka Public Sector Accounting Standard	
	10. Management Deficiencies (Spectra Meter System LSD)	The Chairman of the AMC directed D/Finance to provide certain answer in this regard.
	11. Deficiencies for staff Administration	DG informed that the new SOR has been

		sent to the MSD for their approval.
	12. NCNDT Construction	The Chairman of the AMC directed D/Admin. to provide certain answer in this regard.
	13. Not entered Assets of Financial Statements	The Chairman of the AMC has indicated that this answer is not sufficient and therefore suggested D/Finance to submitting an amended answer in this regard.
	14. Not submit the information for officer's salary payment and vehicle permit	The Chairman of the AMC has directed D/Finance to settle this matter
	15. Other Legal and Regulatory requirements	
	16. SLAEB relocation project	
	17. The DG has pledged to submit the answer to this query.	This matter is going to be taken by the matter arising through the next AMC.
	18. This matter has been settled.	
	<u>19.The issue of vehicle permit, Salary payments and Professional Allowance Payment</u> The DG has already issued letters informing differed the privilege of obtaining a vehicle permit by another 5 years to the officers, who have affected by the audit query.	The Chairman of the AMC informed that the letter was received from the Management Service Department (MSD) on 26/06/2020, it is clearly mentioned that the Grade IV is not entitled to Professional Allowance. As Such, SLAEB cannot consider that the Grade IV is eligible to the Professional Allowance and that was totally wrong and Board cannot make this kind of decision and that is actually discretion of the powers. The Board made the decision that Grade IV

		is not entitled to the Professional allowance and stop making such payment from 25/02/2021.
	(02) Non-Agenda Item <u>Accounts of the SLAEB is indicating Rs.17,158 as the excess cheque payment, on account of Inland revenue Department.</u> Director Finance explained that Inland Revenue Department has altered the date and deposited the cheque 2 months later. Therefore, this payment has been duplicated. However, the previous cheque had not been collected or cancelled before issuing the fresh cheque. This matter was arisen from 2011 and it has not been settled yet. Although, SLAEB wrote to the Inland Revenue Department in this regard but not received reply from them yet. (03) Non-Agenda Item- <u>Invitation for Audit Committee</u>	The Chairman of the AMC advised Director Finance to draft a strong letter to the Commissioner, Inland Revenue emphasizing that this illegal manner. The Chairman of the AMC has informed that all Heads of the Divisions should be attend to the next AMC and it is also helping them to get an idea regarding the Audit procedure.
Meeting Date- 2021-06-23 Agenda Item No - 2021-02-10	Committee discussed and reviewed above year AG's report including undermentioned highlighted areas. 1. With regard to item No.1.6 (ཁ) (iv) of the AG's Report – 2019 (Officers required to give security -FR 880) Director Finance has explained that the line Ministry has not given instructions regarding the officers required to give security (FR 880). Therefore, he has further asked the AMC's instructions on this regard. Internal Auditor (IA) explained that there is a Public Administration Circular in line with the Public Officers (Security) ordinance (Chap.612) for the faithful discharge of their duties.	---

	2.With regard to item No.1.4.3 (ඇ) of the AG's Report – 2019 (Ignoring the VAT Payable) The Chairman of the AMC inquired about this matter and therefore Legal Officer of the SLAEB has made comprehensive explanation regarding the past and present status of the lands exchanging process among UDA, SLAEB and NAITA for SLAEB relocation Project. The lengthy discussion has been done by the Legal Officer of SLAEB and it is attached in minutes of Audit and Management Committee.	The Committee instructed to DG of SLAEB to expedite this matter with due concern.
	3.With regard to item No.1.5.1 of the AG's Report – 2019 (Accounts Receivable) The committee discussed the cheque's realization issues. The follow-up and coordination of cheques and other monetary related matters should be finalized with the support of the all-relevant divisions.	The AMC has advised to discuss these matters in the Senior Management Committee (SMC) and seek suitable arrangements to sought those. The AMC has indicated not only monetary issues but also Audit issues can be discussed and finalized in the SMC.
	8.With regard to item No.3.8 (ආ) of the AG's Report – 2019 (Procurement management) However, DG indicated that some Scientific Directors were stating that but it is difficult task.	The AMC Chairman advised the preparation of the 3 years Procurement Plan aline with the Corporate Plan.
Agenda Item No - 2021-02-11	<u>SLAEB Financial Statements -2020</u> 1.Committee noted the deviation against the Action Plan 2021 submitted by the SLGC, NCNDT and Industrial Application Division directed DG to submit amended Action plan to the next Board with the all-relevant divisions. 2.The D/Finance explained that the Finance Division is struggling with lack of employees and the Book Keeper position has also been vacant. Those are caused to many practical issues and difficult to fulfil the Divisional target on time.	The Chairman of the AMC instructed that should be submitted the division wise performance report along with the Financial Statements. Therefore, the AMC advised D/Admin to referred the letter to the MSD asking to recruit a Book Keeper for a one-year contract basis, until the SOR will be

	3. The Financial Statements 2020 (Total Revenue-Page No.30) The D/Finance explained that the prevailing Covid situation was caused to the reduction in the revenue. On the other hand, the lack of NCNDT training courses and inspections have also affected to reduce the expected revenue. D/Finance explained that Gamma Centre started its source upgrading process in 2018. However, SLAEB had to run the institute by vote on account in the year 2019. Therefore, the budget for the source upgrading had received in June 2020. After finalizing draft bidding documents (SPAC), bid calling process was started in March 2020. However, IA explained that if the bid was called on time, there was a way to recover the loss and unnecessary delay of source uploading.	approved. The Chairman of the AMC inquired about the Total Revenue.
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	4. Financial Statements 2020 (Debtors - Page No.22) Compared with the year 2019, the doubtful debts were reduced. However, there are NCNDT's trade debtors, amounting to 17 million. The Director Finance indicated that there was 68% recovered from the debtors. But NDT services and Thermo luminescent dosimeter (TLD) services invoices are delayed in settlement continuously. The Director GSD explained that the reason for the delay in settlements is a lengthy process for approval dues settlement specially in the Forces and Government Institutions. Director- General Scientific Division explained that the selling price of the TLD Card is Rs.12, 500/- and purchasing price of the TLD Card is Rs.12, 672/-. Further TLD Card for opener is sold at Rs.5500/- and cost of the TLD Card for opener is 7, 477/-.Some TLD Cards are received from the IAEA and cost of that card was USD 30. Other TLD Cards were directly purchased by the SLAEB, at cost per card was USD 60. However, these two categories of TLD Cards (USD 30 and USD 60) valued at Rs.14, 000/- under the cost calculation method. The previous TLD Cards were valued at Rs.12,900/-. The IA explained that lumpsum amount (Rs.7,770,997/-) has been given as SLAEB balance sheet as at 31/12/2021. Therefore, IAU tried to check the TLD stock information from the stores (From stock ledger) however, Store Keeper indicated that TLD stock has not been recorded in the stores books. The cost sheets of the Donation and purchased TLD lots have been prepared by the finance division and submitted to IAU but the information requested chart had not been completed. IAU has compared the cost of the card with invoice value and according to that sale price was less than cost of purchase.	The chairman of the AMC explained that the IA query should be specified and there is no relevant year indeed. The Chairman of the AMC inquired about the page no.12 of the Internal Audit Report. Further he indicated that the IA has not mentioned the year this matter involved.
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	5. Financial Statements 2020 (Provision of doubtful Debtors -Page No.22, Item No.4.1.2) The IA explained that the previous Board has duly indicated that these doubtful debtors should not be submitted to write off and it has given instruction to provision those doubtful debts.	The Committee Chairman instructed to get all division's cooperation in this regard as well as instructed D/Finance to submit a list of doubtful Debtors to take a Board decision in this regard.
	6.Financial Statements 2020 (Staff Debtors- Page No.22, Item No.4.2.1)	The Chairman of the AMC explained that the small amounts of money, which are involving under the staff debtors can be write off by the Board with the due justifications and therefore directed D/Finance to submit these to the next Board Meeting.
	7.Financial Statements 2020 (Prepayments - Page No.23) The D/Finance indicated that the amounts related to the Medical Insurance 2019/2020 premium had been paid in December 2019. Therefore, total amount payment has been accounted as 2019 expenditure without considering prepayments. The Audit superintendent instructed that to submit amended financial statement to them with the accounting expenditure related to 2020 correctly.	The Chairman of the AMC inquired about the prepayment, related to Medical Insurance premium prepayments.
	8.Financial Statements 2020 (Expenses relating to Construction of Exposure Room (ER - Page No.24, Item No. 11.1.1) The D/Finance indicated that the Rs.1 million retentions of the above construction and that money can be released to the constructor, once the consultant approves the payment.	
	9.Financial Statements 2020 (Unidentified Deposit - Page No.24, Item No.11.1.5) The Director Finance informed that most of the customers were not duly informed to the SLAEB regarding their payments because of that there is no way to identify the deposits.	
	10.Financial Statements 2020 (Government Grant-Recurrent-Page No.25)	The Chairman of the AMC inquired about

	The D/Finance explained that the SLAEB is endeavoured to reduce the obtaining Government Grant. He also pinpointed that the SLAEB didn't receive a total recurrent budget allocation for 2020 and same manner SLAEB has managed salary expenses of the month of March 2021 from granted income.	this item.
	11.Financial Statements 2020 (Consumable received as Donation- Page No.25) The Government Audit inquired about the foreign grants. The D/Finance explained that the discussion had been made with Director General of External Resource. This process has been submitted as a Board Paper to the last Board Meeting, which was held on 25th June 2021. The Director General Scientific stated that when the donations/ funds are received directly to the Treasury (ERD) we cannot trace that information because sometimes, IAEA informs those by way of email and some are not. The D/Finance pinpointed that this matter should be discussed with the line Ministry and resolved. The reason is all donation accounting information was referred to the line Ministry.	
	12.Advance Payments Even though Rs.600,000/- purchased have been already made by purchase advance but the relevant invoice has not been received yet from the Ceylon Oxygen Company. Therefore, that advance settlement journal entry has not been passed and the cost of purchase amount still remaining in the advance Account.	The Chairman of the Committee mentioned that IA indicated in the above IA report that newly recruited Scientific Officers have not been assigned to effective work process still. Subject to rectify the issues mentioned above the AMC granted approval to Financial Statements 2020.
Agenda Item No - 2021-02-12	<u>Deviation Against Action Plan</u> IA also informed that according to the amended action plan 2020 IA programme also should be amended. Committee noted the deviation against the Action Plan 2021 submitted by the SLGC,	Committee directed DG to submit amended Action plan to the next Board with the all-relevant divisions.

	NCNDT and Industrial Application Division.	
Agenda Item No - 2021-02-13	Circulation of the Minutes D/Admin indicated that she has not received considerable time to peruse the previous minutes reasoning of the delay in receiving the AMC file due time. IA explained that these items were discussed at the last AMC and Directors also participated that meeting so they have obligation to prepare those. Secretary to the AMC indicated that she has prepared the minutes within two weeks' time and referred to the IA due time with a copy to the DG. As well as prepared a list of to be done work and circulated that among the DG, D/Finance and D/Admin.	The Chairman of the AMC directed IA to circulate the minutes to the relevant director on due time.
	3. Divisional Meetings instead of Senior Management Committee Meetings (SMC) The DG explained that the SMC Meeting is like as a Grievance Committee. Therefore, the Directors Meetings are more effective than the SMC and that is only comprising of the respective directors. Further DG said that, the SMC Meeting is comprising of all Directors, Deputy Directors and sometimes Senior Scientific Officers too and that they only missed the Internal Auditor and Legal Officer in the divisional meetings. Although, the Legal officers and Secretary to the SMC explained that SMC meeting is only comprising of Directors and Deputy Directors. Only one SMC meeting, which was held as a special meeting regarding the salary, special allowance payment issues, therefore the Chairman of the SLAEB directed to get participated the affective officers. However, that day also only participated two officers additionally. Further she said that Chairman of the AMC/ Committee member of the Salary Anomalies Committee also participated to above meeting	
	4. Government & Internal Audit Queries 2020 The Chairman of the AMC indicated IA to the above-mentioned item of Government & Internal Audit Queries 2020 has not been included in this agenda items and that's an issue. Accordingly, it cannot be measured how many Audit Queries are there and how	

	many replies have been provided by the SLAEB. The IA stated that this special meeting called for review IA observation of the financial statements 2020 before being submitted to the Auditor General therefore she has not submitted other Audit reports to the agenda.	
	5.Guidelines of Director Health Services-2021 The DG submitted a Guidelines of Director Health Services- 2021 to the AMC and asked for the instructions from AMC to maintain SLAEB in accordance with those.	The Chairman of the AMC explained that the AMC cannot be provided instructions depending on the guidelines. Until it has been issuing as a circular.
Meeting Date- 2021-11-09 Agenda Item No - 2021-03-15	<u>MATTERS ARISING FROM PREVIOUS MINUTES</u> 1. With regard to Item No.6 (Staff Debtors) under the title of “SLAEB Financial Statements-2020”, The D/Finance pledged to submit staff Debtor’s report which was presented in the financial statement 2020.	Mr.Kavinda Chanaka (Member of the AMC) instructed Internal Auditor (IA) to peruse all relevant correspondence in this regard.(This minutes was confirmed with adding the reason for refer to perusing all relevant correspondence)
	2. With regard to Item No.8 (NCNDT Construction) under the title of “SLAEB Financial Statements-2020” The AMC lengthily discussed regarding the extra cost incurred on account of NCNDT construction. Accordingly, it has been noted that the Cabinet approved value of the total contract sum was Rs.370 million and therefore this cannot be referred to the Ministry Procurement Committee (MPC). Further, the Committee perused there were 38 million outstanding bills for additional works. However, additional works were not included in the original approved works and therefore those cannot be interpreted as “extra works” and these were additional works.	Audit Committee pointed this should be referred to the Cabinet appointed Procurement Committee (CPC). As the outstanding bills amounting to 38 million was additional works, Mr.Kavinda Chanaka (Member) pinpointed that it should be separate tenders for these additional works even though that process had not been done. In addition to that, he explained this was a deviation of scope and that should have been approved by the relevant Procurement Committee with the concurrence of the Cabinet.

		However, that had not been done duly and therefore it is illegal. Considering this fact, that AMC Member pinpointed, this issue should be resolved with the CPC and not with the SLAEB. Finally, the Committee instructed DG to submit a comprehensive report in this regard to the next AMC.
Agenda Item No - 2021-03-16	<u>Draft Internal Audit Plan-2022</u> IA explain that 2022 draft plan has been prepared based on 2020/2023 co-operate plan only because of non-completed 2022 Budget, Action Plan & Procurement plan.	The AMC directed IA to submit finalized Internal Audit Plan report to the next AMC.
Agenda Item No - 2021-03-17	<u>Accounting procedure for Foreign Funds and Assets received as donation for CRP, RAS, TC and National Level Projects.</u> This discussion was with regard to item No.1.6 (අ) of the AG's Report – 2019 (Government Financial Circular 30/94) too. The Representative of the Auditor General pinpointed that the Donation received from the IAEA are not accounting properly due to none availability of specific account system in the SLAEB on this regard. Further to above External Resources Department (ERD) is also indicating any forms/ kinds of foreign aids received to Sri Lanka should be gone through the ERD. An ERD is recommended that inline all foreign funds and assistance through them, for macro level reporting purpose. Internal Auditor informed that as per the Atomic Energy Act, ERD approval should be obtained for all foreign donations received to the SLAEB.	Mr.Kavinda Chanaka (Member) questioned, whether this Government Financial Circular No.30/94 is applicable to the SLAEB?. On the other hand, he explained that the foreign-sponsored events are not accounting in the respective institution. The Chairman of the AMC indicated this is should only inform the ERD for their recording purpose. Otherwise, it may be an issue.

Agenda Item No - 2021-03-18	<u>SLAEB Relocation Project accounting issues and present status</u> This issue has been discussed several times under the Item No.1.6 of the AG's Report – 2019 (SLAEB Relocation Project) Committee Member (Mr.Kavinda) inquired the present status of the SLAEB relocation project. Committee highlighted following matters. • Due to the new Kalani bridge project, dismantling old building and taken over that land for the project requirement. • RDA (project Director) agreed to constructed of new premises to AEA subject to the condition of new land provided by the AEA. AEA had been paid Rs.181 million in the 2014 for the purchase of new land at Malabe, but there is not deed on account of Malabe land yet. • We have not received compensation or overpaid lease amount around Rs. 7.6 million from the UDA or RDA. Even though SLAEB settled in the new building from April 2018, but cost of properties (Land and building) belongs to SLAEB has not been accounted still in the financial statements. • The Chairman of the AMC inquired about this matter and accordingly Legal Officer explained same as previous explanation. [Previous meeting Reference No – 2020-02-10 (02)] • That amount of Rs.181,000,000/- has been paid for the Malabe land depending on the letter received from the Director-Land Development of the UDA and without any valuation report. • According to the valuation report, the Malabe Land value to the Rs.119,000,000/-.As such, SLAEB had already paid excess Rupees of 62,000,000/- without obtaining a valuation report. • SLAEB had several meetings with relevant parties regarding this and the Additional Secretary to the line Ministry also participated in these meetings. At the	The AMC advised Finance Division, Administration Division and Legal Officer to submit a comprehensive report to the next AMC in this regard.
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	meeting RDA argued that the old SLAEB premises were entitled to the Government and therefore no compensation can be granted to the SLAEB. • However, UDA indicated that the SLAEB had not entered into the compensation process and the land acquisition officer of this project was RDA. • RDA has referred this matter to the Attorney General's Department with a copy to the SLAEB. SLAEB also has sent a letter to the Attorney General's Department on 05/11/2021.	
Agenda Item No - 2021-03-19	<u>Government Audit Queries</u> <u>1. Financial Auditing 2020 (II) (POE/B/CD/AEB/2020/05)</u> Human Resource Management The AMC questioned about this matter from the D/Administration. Accordingly, D/Administration explained that she is not in a position to fill the vacant positions until the MSD grants approval for the SOR. The SLAEB has not received approved SOR for themselves and they have only approved SOR for the Atomic Energy Authority (AEA). Therefore, the MSD has been given written instructions to stopping the filling of vacancies through the AEA cadre. In addition to that, the DG and the D/Administration stated that the new SOR is at the certifying stage in the Management Services Department (MSD).	The Chairman of the AMC instructed DG to write to the MSD indicating the actual necessities of filling the vacancies with the comprehensive details. Further Committee Chairman instructed DG to submit that letter to the next AMC.

Agenda Item No - 2021-03-20	<u>Internal Audit Report</u> 01. <u>Internal Audit Observations in respect of staff Medical Insurance scheme-2020 (IA(R)/2020/09) and reply report</u> The IA explained there are some issues with the bid evaluation report. Especially, IA indicated this bid evaluation has not been done within the parameters and only just done without due concern. Further to the above, IA stated that usually, appointments for the TEC members for each procurement are done by the D/Administration using the list of TEC members approved by the erroneously. Accordingly, D/Administration pledged to insert IA's observation. The gaps are raised due to the non-availability of the Detail Procurement Plan, the Chairman of the AMC stated.	Mr.Kavinda Chanaka (Member) explained that the appointments for the TEC should be done through the Chairman and the appointments for the Tender Boards should be done through the Ministry level.
	02. <u>Checked the SLGC vehicle accident (53-6147) and made Internal Audit Observations/ Recommendations. (IA(R)/2021/01)</u> Mr.Kavinda Chanaka (Member of the AMC) explained that there should be an inquiry for the administrative aspect in this regard as well as another inquiry should be done under the FR 104. The D/Administration stated that the committee has been appointed for the estimation of losses. However, the D/Administration said her inability to produce those documents, because of the non-availability of the relevant officer, who maintain the records.	Mr. Kavinda Chanaka asked to submit inquiry report and other related documents including inquiry Committee appointments to the AMC. Therefore, the AMC directed D/Administration to submit those reports and documents within 2 weeks.
	03. <u>05 years Income and Debtors Analysis of the SLAEB (Draft IA report)</u> The DG indicated details of the Industrial Application Division has not been included in this report.	The Chairman of the AMC appreciated this report although he pointed out that the activities are not parallel with the income and that indicates income gathered through the increment of service cheque. The AMC instructed IA to prepare the final report of this in accordance with the "KPI".

		Accordingly, the AMC directed to submit this report to the event of preparation of Strategic Plan.
Agenda Item No - 2021-03-21	<u>Any Other Business</u> 01. 2021-03rd Quarter Progress Assessment report of the Internal Auditor Committee discussed and reviewed above progress report including undermentioned highlighted areas. Public Sector Internal Auditor's Hand Book The IA pinpointed the above-mentioned handbook has already submitted to the SLAEB Board and get their concurrence to application of that hand book in the SLAEB. Board of Survey The Chief Internal Auditor explained that the Board of Survey Report-2021 should be submitted within the due time. Accordingly, this report should be submitted in March 2022. Physical Stock Verification Report The Representative of the Auditor General explained that the necessity of submitting this report. The D/Finance pledged to submit this report to the next AMC. Government Circular No:2020/01 The Representative of the Auditor General stated that the increase of service charges should be done in accordance with instructions given by the above-mentioned circular. Corporate Plan Further to the above, the Representative of the Auditor General pinpointed that the Corporate Plan has not been revised year wise.	According to that book, committee minutes should be prepared clearly indicated the responsible officer for resale/ implement each issues/ recommendation pointed out by the AMC.

	• Auditor General's Report-2019 <u>Under the Item No. 2-Isotope Ratio Mass Spectrometer</u> Under the AG's Report, it was mentioned, the above-mentioned equipment has installed paying the amount of Rs. 3,963,384/- in 2019, the commercial operations have not been done until May 2020. The D/Life Science Division stated now they are planning to obtain lab accreditation to their lab and accordingly, they can provide more services using this equipment. <u>3 (e)- SCFR/662/2010</u> The Chairman of the AMC explained this matter has been referred to the Standing Committee for outstanding contentious matters pertaining to Human resources at State Owned Enterprises, under the MF Circular No. 1/2020. <u>3 (we)- Market Inspection Regarding the Imported Milk Powder</u> Under the AG's Report, it was pinpointed that sample was not collected from market to measure the radiation level of import milk powder. However, the AMC explained this is not mandatory of the SLAEB. The SLAEB has been doing this inspection only for the purpose of personal data gathering. <u>3 (b)- FTIR</u> Under the AG's Report, it was mentioned, the above-mentioned equipment has not been installed in the new office premises and therefore it was indicated as an uneconomical. The D/Industrial Application Division (IAD) explained there are lab humidity issues and therefore parallel repairs are going on.	Therefore, Committee Chairman said that no need to disclosed further it at the AMC meeting. The AMC explained this should be submitted through the Board Paper. Accordingly, the Board can refer this matter to the Sri Lanka Atomic Energy Regulatory Council for preparing necessary regulations in this regard. After that, the SLAEB should be endeavoured to make this mandatory through food inspector, Mr.Kavinda Chanaka further said. AMC expected an updated answer and therefore directed D/IAD to submit a report to the next AMC.
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	<u>With regard to Item No.4 (Senior Management Committee Meetings-SMC) under the title of “Any Other Business”,</u>	The AMC suggested Chairman-SLAEB to appoint officials to this committee. In addition to that, Mr.Kavinda Chanaka (AMC Member) pointed out it is better to get the participation of the IA and Legal Officer to the SMC as the precautionary method and that will be helped to minimize the legal and operational and financial management issues faced by the SLAEB.
Meeting Date- 2021-12-29 Agenda Item No - 2021-04-23	1.With regard to Item No.6 (Staff Debtors) under the title of “SLAEB Financial Statements-2020”, “The D/Finance informed the AMC Committee that there is an outstanding invoice, which was related to the Sri Lanka Customs. The Sri Lanka Customs had requested to get done some SRF analysis from the SLAEB and was finally informed it was not needed. However, the correspondences were not really convinced of this matter.	The Committee decided to refer this matter to the Internal Auditor (IA) for perusing all relevant correspondence in this regard. If there was no due payment reported, can be cancelled the purchase order on that basis”.
Agenda Item No - 2021-04-24	01.Comprehensive Report on NCNDT Construction Mr. Kavinda Chanaka explained the difference between the extra works and the additional works of the project. Accordingly, extra work is within the scope enhancement and additional work is excluded work from the scope and these are separate works. For the additional works, there must have an allocation and without such an allocation, separate tenders cannot be called. As per the previous AMC minutes, the IA informed that the D/Finance has been indicated 9 million for extra works can be made. However, IA enquired that the out of 38 million how can be made only 9 million. The reason is SLLDC by its letter dated 09/09/2021, mentioned that they are going to take legal action for recovering the total outstanding amount. The D/Finance informed that the 9 million for extra works can be made through the Ministry Procurement committee. However, approval for excess payment of another ten million should be obtained from the Cabinet. Accordingly, the report will be submitted to the Ministry, through the contractor. Perusing this report, the Ministry will be decided	

	whether it will be obtained the Cabinet approval or not. The Director-General of the SLAEB confirmed that all these additional works had been done with the Board approvals.	
	02.Report prepared by the Admin, Finance and Legal Division regarding the AEA/SLAEB relocation project issues Land Disputes ➤ Old AEA Land The Attorney General's Department suggested resolving the matter of the 77 years leasehold right as per the Cabinet Decision of No.18/፻፺፱ (019) with the collaboration of Secretaries of the relevant Ministries. Unless otherwise, it was suggested to submit a Cabinet Paper in this regard.	
	➤ New SLAEB Land The Attorney General's Department suggested obtaining the ownership of this land through the Government grant. Accordingly, further instructions have been received to submit a Cabinet Paper suppressing the lease right of the Urban Development Authority.	
	II. New Building Issue There was a document for handing over with the signature of the former Director-General. IA stated that the Road Development Authority has been informed that they have already handed over documents with cost of building.	
	03.Inquiry report regarding the SLGC vehicle accident and other related documents including inquiry Committee The Committee enquired about the file that has been maintained regarding this matter. However, the D/Administration stated that the file has been taken by the investigation panel.	The Committee emphasized that these types of inquiries can be taken up by the Senior Administrative Officer not only the Legal Officer. Overall, the responsibility for such kind of inquiry is going to the Director Administration even this occurred at the two

	The Committee asked about the preliminary inquiry report and fixing of responsibility for loss or damage as per FR 104, in this regard. The D/Administration informed that this matter was referred to the Legal Officer. The Legal Officer explained that this matter was occurred during the lockdown period and was not conveyed this matter to her. After a long time ago, this matter was referred to her and even at that stage, the matter had gone. Therefore, she has refused it with the clear justification. Simultaneously, the Committee Chairman enquired, whether this vehicle was produced to the registered garage or not? The D/Administration informed that was a lockdown period and therefore the vehicle referred to the nearest garage. Further to the above, the D/Administration informed two Administrative Officers were appointed to submit a preliminary inquiry report and informed Committee that the inquiry panel for loss recovery has pledged to submit their report within 7 days. Meanwhile, the Committee enquired about the technical aspect of this report. The inquiry panel has decided not to condemn this vehicle and get repaired this vehicle from the insurance company. That was a lockdown period and therefore not able to produce this vehicle to obtain the technical report. After that, the technical person has refused to issue a technical report, stating that the vehicle was not produced before it sends to the garage. The IA informed that there is no proper mechanism maintained for the Inquiry and fixing of responsibility as per FR 104 in the SLAEB.	centers of the SLAEB, the Committee explained. Therefore, the Committee instructed D/Administration to obtain the reasons for not complying with the instructions from the relevant Administrative Officers. Although now, the Committee instructed D/Administration to obtain a technical report from the technical person.
	04.Long term unsettled Government Institutional Debtors of the SLAEB The IA informed that she has requested a list of requesters of the TLD. However, D/RPTSD has indicated there is no such a list and they are providing services to the registered customers and that is a lending basis. Therefore, IA Unit is supposed to do a system audit in this regard, the IA further stated. Mr.Kavinda Chanaka explained that providing services on a lending basis is not the scope of the Government institutions. If any division provides services on a lending basis, collecting debts is also their responsibility. In comparison with the other	Moreover, the Committee emphasized providing services to the private sector on a lending basis is not a mandate of the act at all. Hence, the Committee emphasized at least the Government debtors can be waived off after a reasonable time. Although, there is no provision to waive off the private sector

	Government institutions, they are not providing services on a lending basis. The Ministry Observer also suggested preparing a policy as mentioned above including the interest rate for long term unsettled debtors. D/RPTSD and D/Finance suggested strengthening the Business Development Unit to solve this matter of long-term unsettled debtors.	debtors. Finally, the Committee instructed to prepare a policy on providing services considering the Government mandate & the divisional scopes and also directed to submit this policy to the Board for approval. Mr. Kavinda Chanaka suggested the “Deposit Premium Method” as an option.
	05.FTIR Report The D/RPTSD informed that one of the icons of this equipment had been produced for repair. As per Hayley's quotation, 8 million should be paid for this icon replacement. However, it should be verified, such an income can be generated through this equipment? On the other hand, there is a special condition like dual AC requires for the maintenance of this equipment. Therefore, it should be verified that the real gain that can be made by this equipment prior to repair, D/RPTSD further informed. The Committee noted that Dr.Viraj Edirisinghe (D/IAD), did not present in the AMC. As a Director, he ought to have participated in the AMC.	However, the committee expected a comprehensive report in this regard through the D/IAD to the next AMC.
	06. Auditor General’s Report-2019-(Under the Item No. 2-Isotope Ratio Mass Spectrometer) The Committee enquired about the function of this equipment. The D/Life Science Division pinpointed that the database has customized in line with the equipment and therefore, a reasonable time was taken for that process. The D/Life Science Division further stated that she answered this Audit Query with adequate details. However, the Committee indicated that this query has published in the Auditor General’s final report since the answer was not acceptable level.	The D/Life Science Division pledged to submit a comprehensive report to the next AMC in this regard.
Agenda Item No - 2021-04-26	<u>Internal Audit Reports and Management Responses</u> 01.SummeY of reply received to Internal Audit Reports by the Management (from	The Committee directed D/Finance to submit a Board Paper in this regard to the

	2017 to 2021) The IA explained that the replies of some of the divisions have indicated delay. Mr.Kavinda Chanka instructed to prepare a reply method for the Audit Queries in the divisional meeting. The Director-General appointed a committee including D/Finance, D/Administration and himself for looking into the matter of deviation from the financial regulations. Moreover, the D/Finance informed that since 1980, there were 3 million opening balance differences between the fixed assets registry and book value. That matter was an audit query from a long period of time he further said.	next Board Meeting for a decision. Further, the Committee advised not to drag such kind of matter for a long period of time.
	02.Summary of the issues pointed out by the Internal Audit and Government Audit Under this item, the IA indicated that the grants for the Coordinated Research Projects (CRP were incurred for some of the expenditures of the SLAEB. Since 2020 SLAEB maintain a separate bank account for the CRP and Capital Grant. Practically, those expenditures were not correctly accounted under the relevant CRP/ACs. The Committee pointed out that the cash flow statement and fund management were two different items. There should be separate expenditure accounts for projects wise as the record-keeping purpose. In addition to that budget should be prepared for the specific project and the expenditures should be debited to the relevant account. Hence, the respective directors should be liable to submit the project proposal and its budget & expenditure information, the committee explained.	
	03. i Examine the remedial actions taken by the institute to overcome the issues indicated by the Government Audit Queries. (IA/(R)/2021/02) ii Examine the remedial actions taken by the institute to overcome the issues indicated by the Internal Audit Reports. (IA/(R)/2021/03) iii Internal Audit Observations regarding the HR Management process (IA/(R)/2021/05) The Committee indicated that the Audit Queries should be sent to the	The Committee advised D/Administration to prepare a restructure plan, which is effective to the entire SLAEB, after getting approval for the SOR.

	D/Administration, with a copy to the Chairman. The D/Administration stated that she can't provide reply for the draft Audit Queries. iv 05 years Income and Debtors Analysis of the SLAEB (IA/(R)/2021/06) The Directors of the SLAEB indicated that they were not aware of the above-mentioned amended report and their involvement has not been gathered for the preparation of this report. 1. After considering the facts, the Committee will be decided, whether these can be write-off or not? 2. The Deputy Director of Finance informed that there was an overpayment issue regarding one of the previous employees. On behalf of one of the SLAEB's employee, the SLAEB has made the premiums to the Singer Sri Lanka Company, upon the request of that employee. Once, that an overpayment has been done the SLAEB to the above-mentioned company and the employee has not mentioned stopping the premium until that. 3. National Paper Company-Overpayment The SLAEB received the goods from the National Paper Company a long time ago. However, there was an overpayment to the National Paper Company. 4. Working Director Payment There was a letter received from the Public Enterprises, the position of working Director was not allowed for our institution. However, there was a fuel	Therefore, the Chairman of the AMC instructed IA to send this report to the respective directors. Then it will be a constructive report. The Committee instructed D/Finance to send the last reminder giving 14 days for the list of non-trade receivables. Therefore, the committee advised D/Finance to surcharge that payment from that employee. In addition to that, the Board advised not to engage in this kind of personal payment as an institution. Therefore, the Committee instructed D/Finance to obtain this overpayment within 31st December 2021. Therefore, the Committee directed D/Finance to write a letter to Mr.Chandrasena asking to make this payment. The Committee also directed to
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	allowance that had been done this period and that was an overpayment.	submit that letter to the Committee as well for the recording purpose. In addition to that, the Committee instructed D/Finance and D/Administration to submit a report in this regard to the next AMC.
Agenda Item No - 2021-04-27	Complaint received regarding the misusing of SLAEB Assets (Scientific Equipment) by Mr.R.A Shanthilal The IA informed that on outside person (Mr.Shanthilal) has made a complaint mentioning that Mr.Anuruddha Jayalath (retired employee of the SLAEB) has illegally carried the Automess Scintillator Probe (property of the SLAEB) from the SLAEB to the Maldives. In his complaint, he has mentioned that this illegal activity tantamount to the misappropriation of public property. As per the above-mentioned complaint that illegal activity has occurred on 27th November 2021 and Mr. Anuruddha Jayalath has arrived at the place, which is near the SLAEB premises to meet Mr.Prasad Mahakumara and Mr.Tennakoon. The IA further informed that she received this email on 29/11/2021. Meanwhile, the IA informed that the Chairman has personally checked the availability of that equipment on 02/12/2021 and informed the line Ministry mentioning that this equipment was at the custody of the SLAEB. The Committee indicated that this matter ought to have been made as a complaint to the Police. The IA and Legal Officer informed that the Chairman has already sent a letter to the Police in this regard. Simultaneously, as per the request of IA and the Legal Officer, the Chairman has informed in this regard to Board by way of an email. However, depending on the verbal instruction of the Chairman, they have checked the above-mentioned equipment on 02/12/2021 and gathered vehicle running chart, leave reports and gate pass etc of that day IA and Legal Officer further stated. At that time, Director-RPTSD and Ms.Nirasha-Lab In Charge of the RPTSD confirmed all that equipment were in their custody, IA and Legal Officer informed. The Legal Officer stated that she has received the first correspondence in this regard on 01/12/2021 and that was an email from Mr.Shanthilal to the Chairman with a copy to her.	

Agenda Item No - 2021-04-27	Any other Business 1. Board of Survey Report The D/Finance informed that he will be submitting the Board of Survey report to the Board Meeting. However, the committee indicated this report ought to be submitted to the AMC first. However, the D/Finance informed that he can be tabled this report to the AMC. Accordingly, the D/Finance explained that a committee has been established including D/Administration, D/RPTSD and himself to rectify the issues, which were arisen through the Board of Survey Report. As per, that committee took the decision regarding the discard and dispose of items. The IA requested a copy of this report for the Internal Audit Unit.	If there were deficit items, unidentified items and excess items etc, those lists should be submitted to the AMC, Mr.Kavinda chanka (AMC Member) instructed. He further emphasized that the AMC can make a decision regarding that.
	2. Corporate Plan The D/Finance informed that there was Rs. 48 million recurrent budget that has been approved by the Treasury for the SLAEB. At the strategic plan preparation, it was attempted not to depend on the Government recurrent budget. As per, there are 22 million deficits that can be recognized, D/Finance further indicated.	The Committee explained that the 5 years Strategic Plan can be finalized in the middle of January. However, the Committee instructed to finalize the Corporate Plan for the year 2022. In accordance with this plan, the Committee further instructed to prepare the activities and the budget. The Chairman of the Committee emphasized that, without analysing the risk, it cannot be taking a decision not to depend on the recurrent budget of the Treasury. Therefore, the Committee instructed D/Finance to submit the Board Paper of the Budget-2022 with the Rs. 48 million recurrent budgets. The Committee also pinpointed this budget detail ought to be submitted to the AMC first.
	3. Payment for Unutilized Medical Leave The Committee & the Representative of the Auditor General noted that the SLAEB is	Therefore, the Committee instructed to write

	still referring to the circular in 1983 for the payment of unutilized medical leave. The Representative of the Auditor General stated that the SLAEB is not entitled to this payment.	this matter to the Department of Public Enterprises asking advice on whether SLAEB staff is entitled to continuing the payment for unutilized medical leave under the above-mentioned circular or any other provision whatsoever. The Committee also advised to include all necessary details, mentioning past records of this payment that has taken place & the generated income of the SLAEB.
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Mr. H.T Kamal Padmasiri

Chairman to the Audit and Management Committee

5.0 Provision of Nuclear Science and Technology Services

The benefits of nuclear science and technology are truly felt when applied to provide solutions to the needs and problems of clients as well as the general public. As an Institute of the Government, SLAEB offers its services to industry, agriculture, health, environment and academic sectors with an unparalleled edge owing to the unique capabilities derived from nuclear science and technology applications.

5.1 Sri Lanka Gamma Centre -Gamma Irradiation Services

Sri Lanka Gamma Centre (SLGC), which is the only Government owned multipurpose gamma irradiation facility in Sri Lanka, is in operation from January 2014 in the Export Processing Zone at Biyagama. SLGC functions as a Division of Sri Lanka Atomic Energy Board (SLEB). It has a continuous and carrier type irradiation facility which was loaded with a Cobalt-60 (Co-60) radioactive source with its initial activity of 250 kCi in 2013. The Co-60 was upgraded in 2017 and 2021 with 125 kCi and 250 kCi activities respectively.

The facility is in operation round a clock with experienced and dedicated operational staff. In addition to the irradiator plant, SLGC is equipped with three main laboratories; Dosimetry Laboratory, Food Technology Laboratory & Microbiology Laboratory. Dosimetry Laboratory serves as the quality assurance laboratory which assures the gamma radiation dose delivered to the products irradiated in the facility while Microbiology Laboratory is providing microbiology testing services for validation of irradiation. Food related research is done at the Food Technology Laboratory.



Sri Lanka Gamma Centre at EPZ-Biyagama

SLGC focuses on providing maximum benefits to the country, by encouraging and providing irradiation services to industries, entrepreneurs, research institutes etc... in all the applicable aspects of gamma radiation. Mainly gamma irradiation service is provided for sterilization of medical products, sterilization of packaging materials, microbial disinfection and insect control in food and medicinal herbs and photo-sanitary treatments.

Assurance of safety and security and compliance with international guidelines is crucial for SLGC, as a commercial irradiator, in order to assure the safety of the work force, gamma source and the environment while providing required security to the source. Regular inspections by Sri Lanka Atomic Energy Regulatory Council (SLAERC) ensures the effectiveness of safety measures which has been successfully embedded with periodic safety checks, medical surveillance programmes, personal dose monitoring programmes etc. SLGC participates with other radiation protection programmes that conduct internationally or locally to uplift its safety and security culture.

SLGC, as a service provider enriches its quality of the service by adhering to international standards and implementing relevant quality management systems; ISO 9001 and ISO 13485 (*Medical devices - Quality management systems -Requirements for regulatory purposes*)

SLGC provides awareness on gamma irradiation technology and applicable services through periodic customer discussions, awareness programmes etc... Knowledge dissemination on applicability of gamma irradiation in different industries achieves through researches conduct in collaboration with universities and research institutes.

Starting activity of Cobalt-60 as at 1st January 2021 was 170 kCi. Due to increasing demand from the existing customers, SLGC upgraded its strength of the source by another 250 kCi in April 2021. The total source activity as at 15.04.2021 was 413.5 kCi after the source upgrade. Even though previous source loading and dose mapping activities were carried out with the assistance of experts from Board of Radiation and Isotope India (BRIT India), source loading this time was done by the SLGC staff due to unavailability of BRIT experts during the COVID-19 pandemic.



Nuclear Security measures at the Colombo Port for source transportation

The challenge of source upgrade, without involvement of foreign experts was accepted by the scientific and technical staff of the SLGC with the past experience gained through previous source loading activities done in 2013 and 2017.

According to the IAEA guidelines and Sri Lanka Atomic Energy Regulatory Council (SLAERC) regulations and requirements; SLGC carried out source loading without any accident or incident. Radiation Safety procedures were followed accordingly and all the exposed doses were within the limits during the completion of the task. Radiation Security was assured by the Special Task Force of Sri Lanka Police during the transport of Radioactive Material from Colombo port to SLGC and all the procedures; Transport Security Plan, Target Folder and Site Security Plan were developed by the SLGC and approved by the SLAERC after the accessing all the documents, before the source loading.

During the source upgrade, following major activities were done successfully.

- (a) The irradiator chamber was prepared for source loading activity by dismantling of heavy structures inside
- (b) Two source flasks were moved from the transport container in to the water pool under the radiation safety measures.
- (c) Source handling table in the pool was removed, repaired and re-fixed with remote handling
- (d) Source pencils were handled manually with remote tools to fix in the source rack (30 old pencils and 22 new pencils).



Dismantling heavy structures in the source chamber

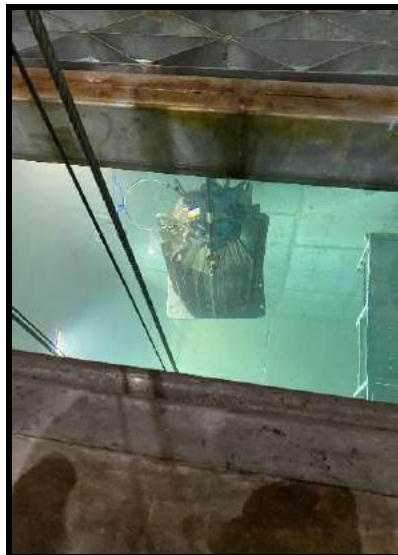
After the source loading activity, the Plant Recommissioning Dosimetry was carried out as a part of the qualification / validation programme, which is essential for the product sterilization, in order to characterize the irradiator with respect to the magnitude, distribution and reproducibility of dose delivery. This was included dummy dose mapping and dose mapping exercises for real medical products. Dummy dose mapping was carried out using saw dust dummy material with equivalent density to the medical products.

The dosimetry re-commissioning studies related to medical products sterilization is carried out in accordance with ISO ASTM 52303, ISO 11137 Standards and as per IAEA guidelines for medical products sterilization.

After the dosimetry exercises the routine commercial process was started and the main process parameter, cycle time, was set to 35.05 mins in accordance to the mapping results. The involvement of the SLGC staff in source loading and dose mapping could save about 11 Mn LKR to the country.



Bringing Source Flask in to the source chamber top



Bringing Source Flask in to the water pool



Fixing Co-60 pencils in the source rack

Gamma Irradiation service has been mainly utilized by a local surgical gloves manufacturer who supplies the total requirement of surgical gloves to all the Government hospitals in Sri Lanka. The total volume of surgical gloves that have been irradiated by the SLGC during 2021 was 3851.12 m³. Also, the SLGC was able to provide irradiation services to other medical products customers who manufacture PET bottles, Gauze Swabs, Surgical Aprons, Cord Clamps and Nasal-Throat Swabs. Hence the total volume of medical devices irradiated at SLGC was 4005.84 m³ within the year 2021. The amount of 8162.52 kg of food products including herbal tea and hibiscus flowers were also irradiated in 2021.



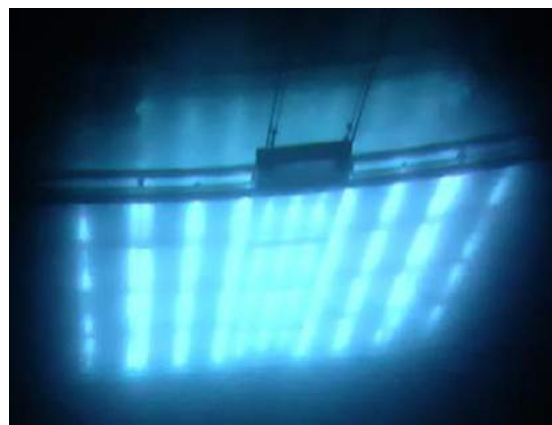
Preparation for Dose Mapping

Auxiliary conveyor (sample conveyor) had been utilized by small scale customers for gamma irradiation. Different products come under the categories of medical, food, plant materials, packaging material were irradiated using auxiliary conveyor including, nasal-throat swabs, substrate powder, baby diapers, cord clamp, cashew milk, poly bags, Petri dishes, clean room garments, non-woven fabric gowns, moringa capsules, papaya capsules, tablet bottles, eye pads etc.

Through Commercial scale operations of SLGC was able to earn Rs. 58,636,001.60. Auxiliary conveyor (Research conveyor) irradiation resulted Rs. 331,858.88 amount of earnings. The total income in the year 2021 was Rs. 58,967,860.48



Co-60 pencils (30 nos.) in the water pool, before source upgrade



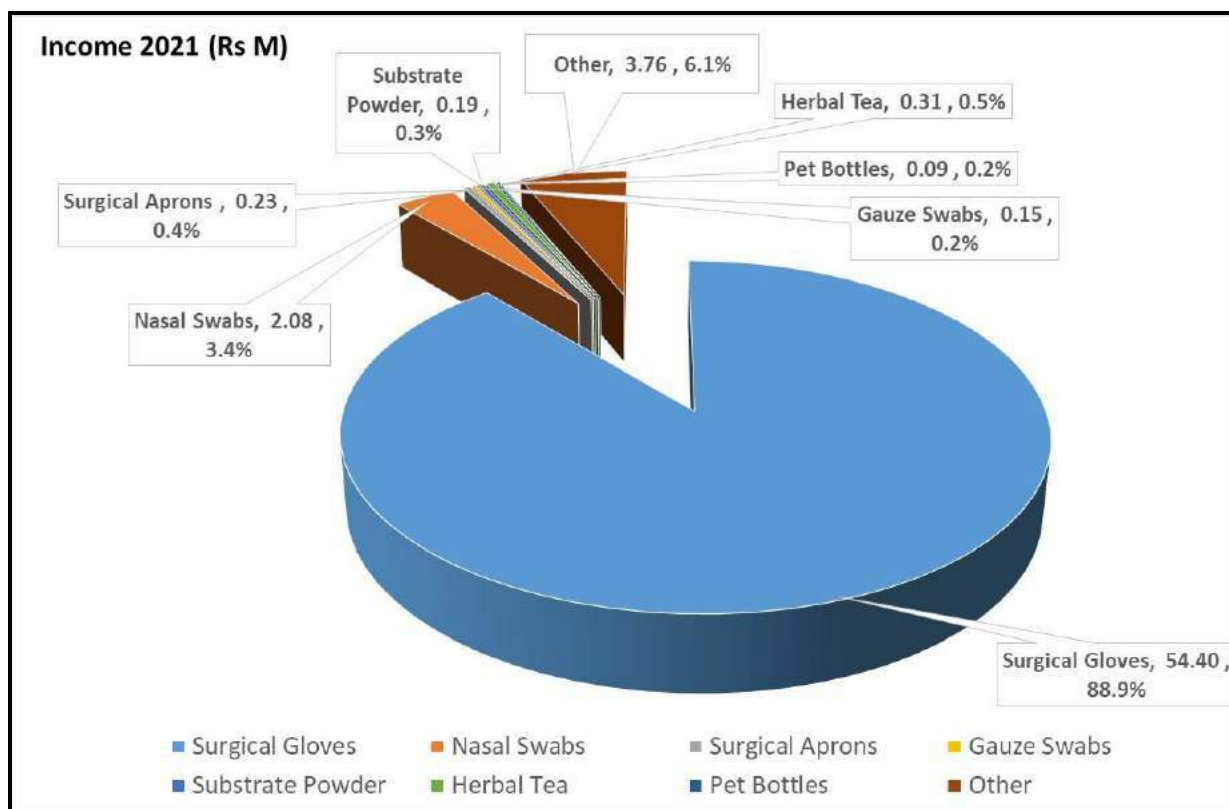
Co-60 pencils (52 nos.) in the water pool, after source upgrade

For the maintenance of Quality Management Systems at SLGC an external audit of ISO 13485:2016 was carried out by the certification body Ascent Lanka (Pvt) Ltd in 2021 and the surveillance audit of ISO 9001:2015 was conducted by the Auditors of Sri Lanka Standards Institute (SLSI).

Through periodic audits, SLGC was able to maintain its Quality Management Systems continuously, providing a quality service to the customers.

In Microbiology laboratory, validation of sterilization dose was carried out with a series of microbiology tests to ensure suitability of the sterilization dose in order to meet the required 'sterility assurance level (SAL)' as per the customer needs.

Food products were also tested for microbiological parameters such as Total viable count, Total Yeast and mild count, Coliform count etc. after irradiation in order to ensure the compliance with relevant product specification.



SLGC Income in 2021

Publications:

S. M. D. R. R. Senarathne, A. A. G. Madurakanthi, N. E. Wedamulla, W. A. J. P. Wijesinghe (2021). Extension of Shelf Life of Fresh Mushroom (*Pleurotus ostreatus*) Using Gamma Irradiation and Determination of Physicochemical and Microbiological Parameters Associated Properties of Ceylon Black Pepper (*Piper nigrum* L.)

T. K. V. V. Chandrasekara, A. M. N. L. Abeysinghe, A. I. H. W. Surendra (2021). Effect of Gamma Irradiation on Microbiological and Physiochemical Properties of Ceylon Cinnamon (*Cinnamomum zeylanicum*) Powder.

5.2 Life Science Division -Nuclear Analytical Testing Services

Nuclear analytical testing services available at the Life Sciences Division (LSD) utilize state-of-the-art nuclear analytics and related techniques for research and regulatory purposes, focusing more on the precision and efficiency of results. These are used particularly for the certification of non-radioactive properties of products before being traded or exported. Compared to other technologies, nuclear and isotopic analytical techniques offer the advantage of producing faster and more precise results on a wider range of compounds and elements. Moreover, its non-destructive capability eliminates the risk of sample damage or irretrievability.

These analytical services are provided through well-established analytical laboratories; namely the Gamma Spectrometry Laboratory, the XRF (X-ray fluorescence) Laboratory, the Alpha Spectrometry and Gross Alpha Beta Laboratory, the ICP-MS Laboratory, and the IR-MS Laboratory. Gamma Spectrometers (with High-Purity Germanium Detectors (HPGe) and Sodium Iodide Detectors), XRF (Energy Dispersive X-Ray Fluorescence Spectrometer, Total Internal Reflection XRF, and portable XRF), Gross Alpha-Beta Counters, Alpha Spectrometers with 08 detectors, and Inductively Coupled Plasma Mass Spectrometer (ICP-MS).

The analytical services provided hitherto by the LSD can be categorised based on the testing purpose as,

- i. Determination of natural radioactivity levels
- ii. Verification of the presence of any radioactive contamination.
- iii. Identification of elements in samples for determining composition or quantification of the concentration of found elements

During the year 2021, the LSD has provided analytical services for the import and export sector, local industries, and R&D institutes by testing 5292 samples. The number of samples tested from the year 2016 to 2021 is shown in the Figure 10.

The types of samples include;

- Milk products from importers
- Tea, desiccated coconut/coconut, spices from exporters,
- Environmental samples such as water, soil, etc and specific alloy/metal items from the industrial sector.

In addition, the LSD provides analytical data required for R & D projects annually. The major purposes of applying these analytical techniques on the previously mentioned material types were Moreover, the LSD has been involved in the testing of radioactive contamination in locally produced and imported milk powder ranging from full cream to infant formula milk powder.

Under this activity 35 samples of imported milk powder were collected starting from January 2021 from the local market covering 12 districts. This program was interrupted in the midst due to COVID 19 pandemic situation, being unable to continue as planned. However, 35

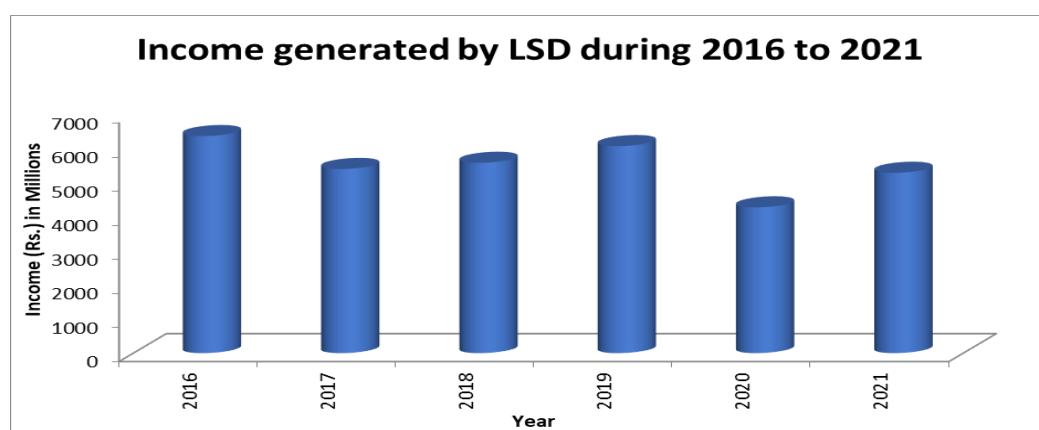
imported milk powder samples and 11 locally produced milk powder samples were analysed for radioactivity contamination during the year 2021. The radioactivity levels measured were found to be within the limits stipulated by Gazette notification dated 21.07.1995.

The income generated through these analytical services amounted to Rs 66.68 million in 2021 and the trend analysis of generated income from during the period 2016 to 2021 is graphically presented in Figure 11 & 12.

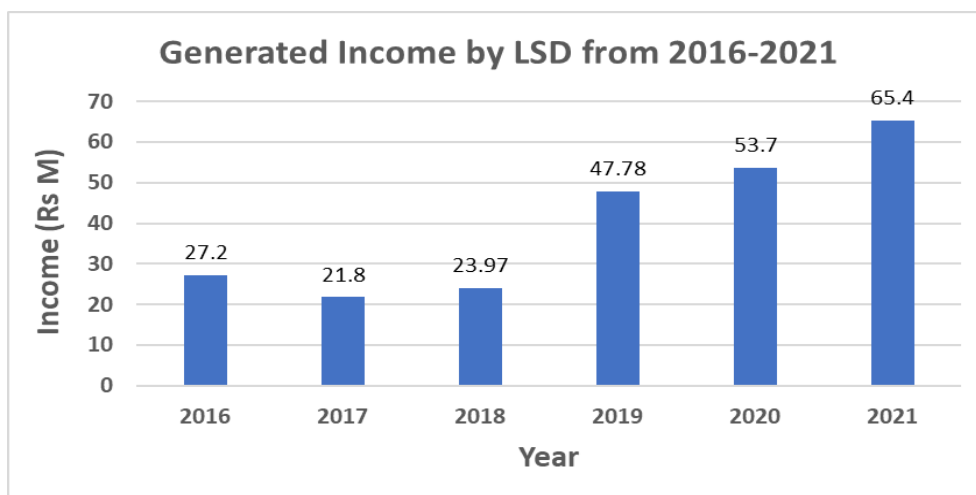
The newly established laboratories for trace element analysis and stable isotope analysis, has commenced its regular analytical services. Analytical service for Gross alpha beta measurements for wastewater has been commenced under the regulatory requirements of the Central Environment Authority (CEA). Our laboratories have been registered under the CEA as a consultant for environmental pollution control and Management as at 2020.



Waste water sampling at an industrial site for Gross Alpha Beta counting



The total number of samples tested from the year 2016 to 2021 by LSD



Income generated from the year 2016 to 2021 by LSD

Gamma Spectrometry Laboratory maintained Quality Management System (QMS) as per the ISO IEC 17025:2005 International Accreditation for testing laboratory, since 2006. QMS was upgraded including all the documents and processes as per the new version of ISO IEC 17025:2017 in February 2020 and the assessment was held in March 2021.

The LSD was able to further strengthen the Quality Management System established through continuous participation in QA/QC programmes conducted locally as well as internationally. The laboratories were participating in internal and external proficiency testing exercises, quality audits, regular assessments conducted by the Sri Lanka Accreditation Board (SLAB) and the IAEA. The LSD has demonstrated both the technical competency and management capabilities required to deliver valid test results consistently.

R & D work carried-out by the LSD

Research and Development plays a major role in the frontline of Sri Lanka's efforts to advance national socio-economic welfare. Nuclear and radiation applications have proven useful in meeting a wide variety of needs such as improving productivity in agriculture, providing better medical services, improving the quality and competitiveness of industrial products, and protecting the environment. Due to the global COVID 19 pandemic situation, it was unable to complete the R & D work as planned.

LSD has engaged in various nationally important projects on the application of Nuclear Science & Technology for Life Science Applications and Food and Agriculture.

- i. Pilot project on Geochemical Approach to Verification of the Origin of 'Ceylon Tea' (collaborative institutes – Tea Research Institute and Sri Lanka Tea Board)
- ii. Enhancing Wetland Management and Sustainable Conservation Planning -RAS7037 (Collaborative project with Wayamba University)

- iii. Development of an organic food authentication technique and determination of fruit juice adulteration using stable isotopes
- iv. Assessing and Improving Soil and Water Quality to Minimize Land Degradation and Enhance Crop Productivity Using Nuclear Techniques (collaborative research with Natural Resources Management Centre, Department of Agriculture)
- v. Enhancing Regional Capabilities for Marine Radioactivity Monitoring and Assessment of the Potential Impact of Radioactive Releases from Nuclear Facilities in Asia-Pacific Marine Ecosystems (RCA)- RAS7028

I. Pilot Project on ‘Geochemical Approach on Verification of the Origin of ‘Ceylon Tea’

A tripartite agreement was signed between the SLAEB, Sri Lanka Tea Board, and the Tea Research Institute to implement the above nationally important project on the 18th Dec 2020. This project aims to develop a scientific verification method based on Isotope Signature and elemental composition to differentiate Ceylon tea from other origin tea. The chief nuclear analytical techniques used in this method are ICP-MS for elemental analysis and IRMS for finding the isotope signature of tea.

During the year 2021, 875 samples were collected from all seven growing tea regions in the country from the selected tea factories for the pilot project. ie: Sabaragamuwa, Kandy, Ruhuna, Dimbula, Nuwaraeliya, Udupusselawa, Bandarawela, Malwattavelly for one season. 74 Samples were collected from North India, South India, China, Vietnam, Kenya as other origin teas.

All samples were processed according to the Standard Operating Procedures for the analysis. Sample analysis is in progress for stable isotopes and trace elements. The pilot project work is continuing during year 2022 for the development of ‘Ceylon tea’ origin verification method.

II. Enhancing Wetland Management and Sustainable Conservation Planning -RAS7037 (Collaborative project with Wayamba University)

The project team was appointed after discussions with the University of Wayamba and Forest Department, Sri Lanka to fruitful of this project activities. Reviewed literature and prepared work plan and standard operating procedure for sample preparations related to the project objectives and activities.

Sampling according to the work plan could not be carried out due to Covid-19 pandemic situation. However, during this period collaborate with Wayamba university samples were collected and these sample were analysed for stable isotope analysis. Results are expecting to do statistical analysis and interpretation.

III. Development of an organic food authentication technique and determination of fruit juice adulteration using stable isotopes:

This project is implemented in collaboration with the Tea Research Institute. A M.Sc. student has been assigned to implement this preliminary study. Soil and leaf samples have been collected from organically and conventionally managed TRIORCON (TRI organic and conventional) long term experimental plots at St. Coombs Estate, Tea Research Institute, Talawakelle, large tea plantations in Haputale and small holder tea fields in Gurutalawa and Diyatalawa with over 10 years of organic and conventional tea cultivation history. 34 samples have been collected during 2021. Due to the COVID -19 situation it was not completed as planned. Sample were grinded as per the standard operating procedures. Samples will be analysed for stable Nitrogen and Carbon isotopes. Project work is in progress.

IV. Assessing and Improving Soil and Water Quality to Minimize Land Degradation and Enhance Crop Productivity Using Nuclear Techniques (collaborative research with Natural Resources Management Centre, Department of Agriculture)

Fallout radionuclide analysis of soil was completed. All the data for Cs137 and Pb210 are published by one international journal, one local journal and three abstracts (international). Already published data from Dolosbage site was submitted to the ERAN database, Tsukuba, Japan. 21 Water samples were collected for Stable isotopes and heavy metal analysis. Seven water samples were analyzed for heavy metals and trace elements by ICPMS technique. Stable Isotope analysis was not done due to technical difficulties. Success story was submitted to IAEA under the topic of “Development of soil conservation strategies in the central highlands of Sri Lanka”.



Water sampling for stable isotope analysis

V. **Enhancing Regional Capabilities for Marine Radioactivity Monitoring and Assessment of the Potential Impact of Radioactive Releases from Nuclear Facilities in Asia-Pacific Marine Ecosystems.**

LSD has already established a marine radioactivity data base in the country. To develop a marine radioactivity monitoring programme, continuous monitoring of marine radioactivity is very important. Due to the COVID-19 situation, it was not completed as planned.

List of PublicationS-LSD-2021

1. Thiwanka Weerakkody, Champa Dissanayake, A.G. Chandrapala, Maheshika Kalpage, Thilaka Attanayaka, Indrani Dissanayake, Kasun Binduhewa, “Terrestrial background radiation study in Bathalegoda, North western province Sri Lanka” Ninth International Conference on Radiation in Various Fields of Research (RAD 2021) 14-18 June 2021. Montenegro (virtual oral presentation)
2. Thiwanka Weerakkody, Lakmali Handagiripathira, Poshitha Dabare, Thisari Guruge Determination of Gross Alpha and Gross Beta Activity in Water samples by iSolo Alpha/Beta Counting System, ICRER 2021: 23th International Conference on Radioecology and Environmental Radioactivity held in Vienna, Austria, June 29-1 July, 2021 (virtual oral presentation).
3. Rajapaksha, D. M., Weerakkody, T., Weerasinghe, P., Attanayake, T., Hadagiripathira, L., Dissanayake, I., & Waduge, V. (2021). Radiological Risk Assessment of Naturally Occurring and Anthropogenic Radionuclides in Marine Sediments of Sri Lanka. Peradeniya University International Research Sessions(iPURSE)). Peradeniya: Peradeniya University
4. Ilya Strashnova, Nuwan Bandara Karunarathne, Biyagamage Ruchika Fernandob, Champa Dissanayake, Kasun Madusanka Binduhewa (2021). An Isotope Dilution Liquid Chromatography-Mass Spectrometry method for detection of melamine in milk powder. Food Additives and Contaminants: Part A; <https://www.tandfonline.com/doi/abs/10.1080/19440049.2021.1937709?journalCode=tfac20>
5. T.N. Fernando, A. G. B. Aruggoda, S.A. Ariadurai, and C. K. Dissanayake (2021). Effects of Different Watering Intervals on Growth Performance of *Abelmoschus Esculentus* Presence with Super Absorbent Polymer Layer at the Root Zone with Moist Coir Dust Layers, International Journal of Research Studies in Agricultural Sciences (IJSAS), Volume 7, Issue 5, 2021, PP 11-17, ISSN No. (Online) 2454–6224, DOI: <http://dx.doi.org/10.20431/2454-6224.0705002>, www.arcjournals.org

6. Maheshika Kalpage, Champa Dissanayake, Saranga Diyabalanage, Rohana Chandrajith, Russell Frew and Ruchika Fernando. Stable Isotope and Element Profiling for Determining the Agro-Climatic Origin of Cow Milk within a Tropical Country (2021) *Journal of Foods*. 11 (3), 275. <https://doi.org/10.3390/foods11030275>

7. R K Dulanjalee Madhusa, T L Weerakkody, W P P C Weerasinghe, T N Attanayake, H M N L Hadagiripathira, V A Waduge, K S G S Priyadarshanee Anthropogenic ¹³⁷Cs distribution and Radiological risk assessment in the Coastal Environments of Sri Lanka *Global Scientific Journals GSJ*: Vol 9 (8), August 2021, online: ISSN 2320-9186 pp 2951- 2960 (IM. F 2.4)

8. R.K.D Madhusa, W.A.T.L Weerakkody, H.M.N.L Handagiripathira, T.N Attanayake Radioactive status and spatial distribution of anthropogenic ¹³⁷Cs in the coastal environment of Sri Lanka in the 2nd international multidisciplinary conference on current research trends 2021 IMCCRT pp28, 6th -7th March 2021.

9. Thiwanka Weerakkody, Champa Dissanayake, A.G. Chandrapala, Maheshika Kalpage, Thilaka Attanayaka, Indrani Dissanayake, Kasun Binduhewa (2021) Gamma spectrometry analytical determination of terrestrial radiation level in Kuruwita area, Rathnapura district, Sri Lanka was submitted to Second International Conference on Applications of Radiation Science and Technology (ICARST-2021).

10. A.G. Chandrapala, C.K. Dissanayake, K.M.A. Kendaragama, S.K. Wetthasinghe, M.D. Kalpage, A.M.T.N. Attanayake, A.K. Hettiarachchi. Assessment of soil erosion under different land uses in Nalanda reservoir catchment and Kuruwita, Kaluganga sub catchment using nuclear techniques (2020) accepted in the journal of Tropical Agriculturist.

11. Thiwanka Weerakkody, Lakmali Handagiripathira, Poshitha Dabare, Thisari Guruge (2021) Determination of Gross Alpha and Gross Beta Activity in Water samples by iSolo Alpha/Beta Counting System accepted as an oral presentation at ICRER 2021 : 23th International Conference on Radioecology and Environmental Radioactivity to be held in Vienna, Austria during Jun 21-22, 2021

12. Thiwanka Weerakkody, Champa Dissanayake, A.G. Chandrapala, Maheshika Kalpage, Thilaka Attanayaka, Indrani Dissanayake, Kasun Binduhewa (2021) “Terrestrial background radiation study in Bathalegoda, North western province Sri Lanka” has been accepted for oral presentation at the Ninth International Conference on Radiation in Various Fields of Research (RAD 2021), Herceg Novi, Montenegro, from 14th to 18th of June, 2021.

5.3 National Centre for Non-Destructive Testing -NDT Services



NCNDT of SLAEB

The National Centre for Non-Destructive Testing of Sri Lanka atomic energy board is a Government owned institute that provides Non-Destructive Testing (NDT) services to Government and private sectors in Sri Lanka.

The prime objective of NCNDT is to provide training and inspection services on NDT. It expects to have well- equipped accredited laboratories as per internationally accepted standards providing services of Non-Destructive and related technologies to civil Engineering and industrial sector (Figure 6).

5.3.1 Training and Certification Services:

While promoting NDT training capabilities, the SLAEB facilitated to establish a National Certification Body for qualification and certification of NDT personnel (NCBNDT) in conforming to the requirements of the ISO 9712, “Non-Destructive Testing - Qualification and Certification of Personnel” and ISO/IEC17024, “Conformity Assessment – General Requirements for Bodies Operating Certification of Persons”.

This CBNBT is accredited by Sri Lanka Accreditation Board for conformity assessment (SLAB) as a Personnel Certification Body (PCB). Further it is a registered PCB under International Committee for Non-Destructive Testing (ICNDT) and is listed under ICNDT Multilateral Recognition Agreement (MRA) Schedule 2.

The NDT certification training courses conducted by the NDT training unit of NCNDT has been accepted by the CBNBT, to allow its trained candidates to proceed for qualification and certification processes conducted by the CBNBT as per ISO 9712.

Also, the certification courses conducted by the NCNDT is registered under Tertiary and vocational education commission in accordance with the provisions of the Tertiary and Vocational Education Act No. 20 of 1990 and the Development Plan published in the extraordinary gazette notification No. 887/8 dated 7th September 1995.

In addition, NCNDT conducts NDT workshops and special NDT training courses annually based on the requests of clients.

A total of 133 persons participated in all above activities during 2021. Total income generated under these activities was Rs.2.1 million (excluding tax). The target for 2021 was 175 personnel to be participated and to generate Rs.4.79 million.

These services have been at an all-time low this year due to the global epidemic of COVID-19.



Number of Trained/Qualified/Certified NDT Personnel

Maintenance of Accredited CBNDT:

Accredited status of the Certification Body for Non-Destructive Testing (CBNDT- Sri Lanka) was maintained successfully as per ISO/IEC 17024:2012, “General requirements for bodies operating certification of persons” and ISO 9712:2012 “Qualification and certification of NDT personnel” and following activities were carried out

- i) The accreditation maintenance activities of CBNDT were continued as per ISO/IEC 17024:2012.
- ii) 20 Nos. of NDT personnel certifications were issued.
- iii) 06 Nos. of NDT personnel certifications were renewed.

- iv) OP 19 Form C “Annual Update to Confirm Continuity of Registration under Schedule 2 of the ICNDT MRA” of ICNDT was filled to Continuing to register as a PCB registered under ICNDT MRA Schedule 2.
- v) Second surveillance assessment of the NCBNDT was conducted by the SLAB.
- vi) Corrective actions (09) were submitted to the SLAB with the documentary evidence.
- vii) Master List of Document (CBNDT/MLD) was revised.
- viii) Quality Manual of the NCBNDT was reviewed and revised.
- ix) “NCBNDT Guide to Qualification and Certification Non-Destructive Testing” (NCBNDT scheme) was reviewed and revised.
- x) A list of minimum practical training specimen and equipment required for NDT training was prepared.
- xi) Management Review Meeting was conducted.
- xii) Standard Operating Procedure “Procedure for Vision Requirement” was reviewed and revised.
- xiii) Standard Operating Procedure “Management Review Meeting” was reviewed and revised.
- xiv) Standard Operating Procedure “Procedure for Suspension and Withdrawal of Certification” reviewed and revised.
- xv) Three virtual Technical Advisory Committee meetings were conducted
- xvi) Pre internal audit on PT laboratory, Training unit of NCNDT was conducted.
- xvii) Organizational structure of NCBNDT was reviewed and revised.
- xviii) Policy for the temporary extension of certification and examination expiry dates for select candidates during this COVID 19 pandemic, NCBNDT was issued.
- xix) Objectives of the NCBNDT was reviewed and revised.
- xx) A short lecture entitled with the “Activities of NCBNDT” was conducted to the board of SLAEB.
- xxi) NCBNDT web page was updated.
- xxii) Safe guarding impartiality-Risk analysis report was prepared.
- xxiii) Customer feedback forms for examination and certification were evaluated.
- xxiv) Internal quality audit was conducted.
- xxv) Existing forms, lists, and formats were reviewed and revised.

Examination Committee (EC) of NCBNDT:

Eleven (11) Non-Destructive Testing (NDT) Examinations were conducted as per ISO 9712:2012 as below:

No	Category of the Examination	Name of the Examination
1	Original Qualification Examination (OQE)	Liquid Penetrant Testing - Level 3
2		Radiographic Testing – Level 1
3		Liquid Penetrant Testing – Direct Level 2 – Camso Loadstar
4		Liquid Penetrant Testing – Direct Level 2 – Normal
5		Ultrasonic Testing – Level 2
6		Ultrasonic Testing – Level 1
7	First Re-Examination of (OQE)	Magnetic Particle Testing - Level 3 - Basic Examination
8		Radiographic Testing – Level 1
9		Liquid Penetrant Testing – Level 1
10		Liquid Penetrant Testing – Level 2
11	Second Re-Examination of (OQE)	Liquid Penetrant Testing – Level 2

Maintenance of Accredited Inspection Body:

- i. The Inspection Body (IB) of NCNDT has been accredited as per ISO/IEC 17020:2012; “Conformity assessment - Requirements for the operation of various types of bodies performing inspection” for Magnetic Particle Testing (MT), Liquid Penetrant Testing (PT), Ultrasonic Testing (UT) and Concrete Structure Testing (CST) by Sri Lanka Accreditation Board (SLAB) from 2017 and accreditation maintenance activities were continued successfully. Further, the First Surveillance Assessment and the Scope Extension Assessment for Radiographic Testing (RT) – Film and Visual Testing (VT) – Testing with VT Tools Kit were conducted successfully.

ii.



**Accreditation Standard of
Inspection Body**

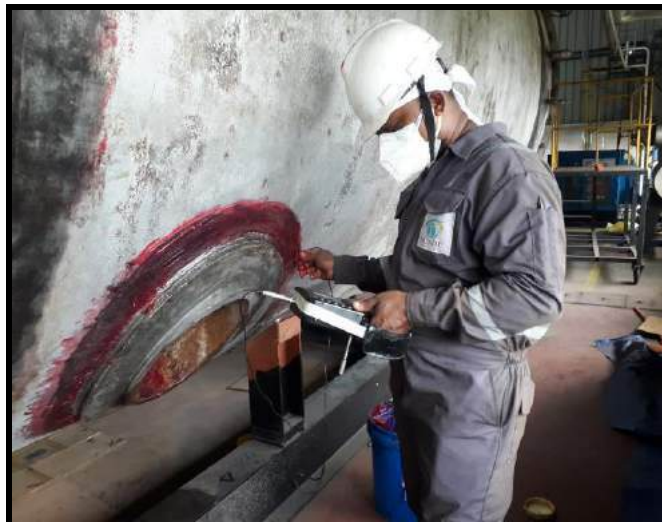
5.3.2 Inspection Services:

Apart from NDT training services, NCNDT provides NDT inspection services to industry in order to detect defects in machinery and metallic components to ensure industrial safety and to improve industrial productivity. The inspection services are provided by the NDT Inspection Body of NCNDT which is an accredited Body as per ISO 17020 by the Sri Lanka Accreditation Board (SLAB).

The SLAB has been recognized by the “international organisation for accreditation bodies (ILAC) operating in accordance with ISO/IEC17011 and involved in the accreditation of conformity assessment bodies including calibration laboratories (using ISO/IEC17025), testing laboratories (using ISO/IEC 17025), medical testing laboratories (using ISO15189) and inspection bodies (using ISO/IEC 17020)”.

Under this accreditation process, 04 NDT methods (Magnetic Particle Testing, Liquid Penetrant Testing, Ultrasonic Testing and Concrete Structure Testing) and hence 04 related laboratories have been accredited.

Well trained and certified staff of NCNDT are carrying-out above inspection services. NCNDT provided **205** NDT inspection services to Government and private sector industries in 2021 and an income of Rs.13.634 million (excluding tax) was generated from the same.



NDT inspection service

While achieving the prime objective of NCNDT to assure the quality of industrial components, assemblies and structures and civil constructions in the country, NCNDT is moving towards to function as a “**Self –Reliance and Sustainable**” nuclear Institution within next decade.

5.3.3 Welder Qualification Facility:

The Welder Qualification Facility (WQF) of the National Centre for Non-Destructive Testing (NCNDT) of Sri Lanka Atomic Energy Board (SLAEB) is planned to establish to create internationally accepted welding professionals such as welders, supervisors, inspectors, etc. This WQF will consist of calibrated equipment, a safe environment, and competent resource personnel with internationally accepted certification schemes such as CWI, CSWIP, etc.

The main objectives of the establishment of this facility are as follows:

- i. Facilitate the welder certification program in Sri Lanka.
- ii. Certify the competence and skills of the welder by providing him with a certificate if he meets the ASME Section IX standard requirements or the client's company standard requirements.
- iii. Procedure qualifying services.
- iv. Screening of welders to ascertain their skills and competency to ensure that they qualify to meet the client's company standards/ASME Section IX standard requirements.
- v. Research and development.
- vi. Building a professional community in the art of welding.

The creation of this important project by NCNDT would accrue multiple benefits to welders as they would be professionally qualified and meet the demand for professionally qualified welders for employment in Sri Lanka and overseas. Further, this will benefit them by uplifting their living status.

Accordingly, the following activities were carried out mainly in 2021:

- i. Welder Performance Qualification (WPQ) Services (i.e., WPQ Examination and Welder Screening) were carried out;

No of Applications		Revenue/(Rs.)
Welder Screening	WPQ Examination	
20	10	553800.00

- ii. Developed the Procedure Qualification Record (PQR) for the 6G position in Gas Tungsten Arc Welding (GTAW).
- iii. Propaganda activities were initiated and built up the welding community via knowledge-sharing activities.
- iv. A Memorandum of Understanding (MoU) was signed between SLAEB and TSUKUBA Technical Promotions (Pvt) Ltd.

5.3.4 IAEA Assistance for the Development of NCNDT through TC Project-SRL 1009

Project Outcome:

Improvement of National Centre for Non-Destructive Testing (NCNDT) of Sri Lanka Atomic Energy Board (SLAEB) to become a sustainable and independent training Centre and service provider in NDT methods and related technologies for the improvement of quality and security of industrial products, machineries, buildings and civil engineering structures.

Project Output:

- NDT inspection services available on conventional NDT methods through an accredited Inspection Body as per ISO 17020.
- NDT inspection services available on concrete testing through an accredited Inspection Body as per ISO 17020.
- Internationally accepted system available for training, qualification and certification of NDT personnel as per ISO 9712/ISO 17024.
- Internationally accepted system available for qualification and certification of welders.
- NDT inspection services available on non-conventional NDT methods.

PROGRESS in 2021

Project activities were continued as per the project plan through-out the year.

5.4 Radiation Protection and Technical Services Division



Radiation Protection Training & Awareness

Sri Lanka, as a non-nuclear state at the moment, does not conduct any activity related to the nuclear fuel cycle. However, radioactive material is being widely used in multiple applications such as medical, industry, research, and environmental conservation.

There are around 2,235 radiation workers in the country who utilizes radiation technologies for the betterment of humanity. To fulfil the regulatory requirement of assuring the safety of radiation workers, island-wide radiation protection and safety services have been implemented.

Parallel to the safety regime, sound technical expertise is required to ensure the security of radioactive sources in the country. This omits the possibility of theft, sabotaging the operation of the facility, misuse of radioactive sources for harmful acts, or any other malicious activity by unauthorized access.

This is another necessary regulatory requirement to develop measures, procedures, and human resources to implement nuclear security in radiation facilities. This further assures the safety of the general public, radiation workers, and the environment. As a mandatory international requirement, technical and scientific leadership for the radiation safety and security frontiers is a prime responsibility of the SLAEB. To fulfil this requirement, the following activities and services had been offered to the country in 2021.

5.4.1 Occupational Exposure Control through Personnel Monitoring Services:

As a mandatory regulatory requirement, the exposure control programme for radiation workers is provided by the SLAEB. All the workers who work in a controlled area of a radiation facility have to obtain this service to ensure safety.

The occupational exposure control program is mainly realized through the personal monitoring service.

The ISO/IEC 17025:2017 accredited Personal Monitoring Services Laboratory provides island-wide services for individual monitoring of radiation exposure using Thermo-Luminescent Dosimeters (TLDs).

11,356 passive dosimeters were measured and evaluated during the year, catering 2,235 radiation workers from 181 institutions around the country. Generated income by the service in the year 2021 was Rs. Mn. 20.67.

Enterprise Resource Planning (ERP) based Software System was introduced in this year to improve the efficiency and the quality of this service.

A Three-day training program on Basic Radiation Protection with hands-on experience on protection components was conducted to improve the technical skills and capabilities on radiation protection of the radiation workers.

During the year 2021, the development of the action plan to implement the Occupational Radiation Protection Appraisal Service (ORPAS) mission was conducted by the IAEA and had been continued by the SLAEB with the contribution of all the participating stakeholders.

Apart from this, the SLAEB developed the “National Guidelines of Radiation Safety for Health Sector” and the “Comprehensive Terms of Reference (TOR) for Radiation Protection Officers” on the invitation of the National Cancer Control Program (NCCP) and the World Health Organization (WHO). These documents produced a comprehensive guideline to improve the quality of service in cancer diagnosis and therapy.

5.4.2 Secondary Standard Dosimetry Service

Calibration of radiation instruments is one of the essential radiation protection procedures to ensure the accuracy of instrument performance, especially in hospitals where diagnostic and therapeutic radiology activities are performed.

The accredited Secondary Standard Dosimetry Laboratory (SSDL) provides island-wide services to calibrate radiation measuring equipment such as Survey meters, Pocket dosimeters, Contamination monitors, etc. Its irradiation standards are inherited from IAEA and BIPM primary standards. The accreditation standards of the SSDL are also maintain the laboratory quality standards with compatible to the ISO/IEC 17025:2017.

The SSDL also maintains a medical X-ray beam, in compliance with the ISO 4037. A narrow-spectrum X-ray beam is used for calibration of X-ray generating and measuring instruments in diagnostic radiology.

As a mandatory requirement for radiation safety, during the year 2021, the SSDL has provided calibrations for 108 radiation measuring instruments. Generated income by the calibration service in year 2021 was Rs. Mn. 0.81.

5.4.3 Nuclear Instrumentation Services

As the only instrumentation laboratory specialized for nuclear instruments in Sri Lanka, the Nuclear Instrumentation Laboratory (NIL) is responsible for strengthening the technical capabilities for radiation detection and analysis in the country. Its operations lie in repairing, maintenance of nuclear instruments, and new development of instruments and methods.

The NIL offers services for the maintenance and repair of nuclear instruments, including the in-house instruments and sophisticated systems at the SLAEB. Also, NIL has initiated the provisioning of consultation services for instrument selection, diagnosis, and faulty analysis. NIL has designed and developed commercial level low-cost radiation measuring equipment. During the year 2021, 8 units of GM counting system were upgraded to newer models. Also, a portable, low-cost personal radiation monitor for use of nuclear security purposes was designed.

The maintenance of national nuclear early warning system was successfully done by replacing eight (08) repaired radiation monitoring stations. In 2021, NIL had addressed 29 client requests for repair and maintenance of nuclear instruments. By provisioning the repair services the NIL has generated an income of Rs. Mn. 0.11 during the year 2021.

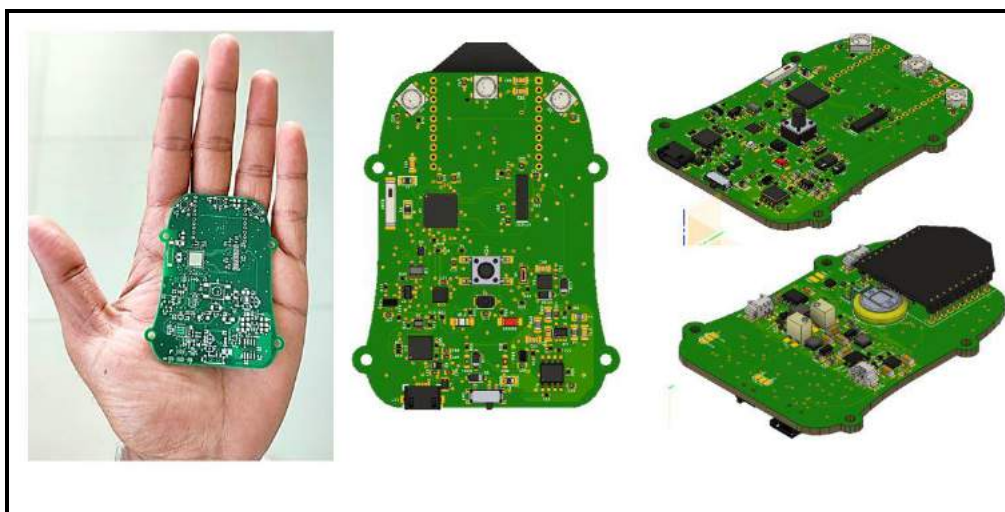
5.4.4 Nuclear Security

The emerging concerns on security in the global nuclear community on strengthening the nuclear security infrastructure has also become one of the critical responsibilities of the SLAEB.

With cooperation from the IAEA, the SLAEB has been able to pay a remarkable contribution to international nuclear security developments. The RPTSD involved in two Coordinated Research Projects (CRPs), with IAEA as follows,

- Advancing Radiation Detection Equipment for Detecting Nuclear and Other Radioactive Material out of Regulatory Control (J02012).
- CRP on Advancing Maintenance, Repair, and Calibration of Radiation Detection Equipment (J02014)

Under the CRP J02012, 07 Radionuclide Identification Devices (RIDs) were received as a donation, and those can be used to strengthen up the nuclear detection capabilities of the country. The CRP J02014 has been approved by the IAEA and the first design prototype has been finalized and presented to the agency.



Second Prototype designed under CRP J02014

Also, the officers of the RPTSD involved in nuclear security developments on international scale. Technical visits and consultancy services were carried out by the RPTSD staff members on the request from clients.

Besides these, with the increasing demand for nuclear security within the country, the RPTSD has conducted ten nuclear security training programmes and has trained around 147 Front Line Officers (FLOs) for nuclear security detection and response. Expert assistance for alarm assessment has been provided for 10 cases at the Mega-port on request from Sri Lanka Customs.

5.4.5 Radioactive Waste Management

The license issued by the regulatory council to maintain the "Central Disused Radioactive Source Storage (CDRSS)" facility has been updated. Radiation protection ,Nuclear Security and Emergency Response Plan were developed and implemented for this facility. Standard Operating Procedures have also been developed to make permanent and temporary storage of disused radioactive sources. This facility is ready to provide commercial services.

5.4.6 Emergency Preparedness and Radiation Monitoring

The emergency response programme and the radiation monitoring programme have been established to improve further the radiation protection and safety objectives of the country. They operate through several activities as follows during 2021. The radiation monitoring programme has been strengthened as a commercial service. Under this, 20 measurement and analysis services were conducted in year 2021.

5.4.6.1 National Nuclear Disaster Early Warning System

The national nuclear disaster early warning system has been established as a precaution for a possible nuclear disaster in the region. The system is fully autonomous and is continuously operational from the year 2012. To ensure the uninterrupted status and accurate operation of the system, a bi-annual calibration is necessary.

5.4.6.2 Environmental Radiation Monitoring

As a national requirement, the environmental monitoring programme was implemented to develop the baseline radiation information system for the country. Radiation data are being collected using in-situ gamma spectroscopy, ambient gamma radiation surveys, and soil Radon measurements.

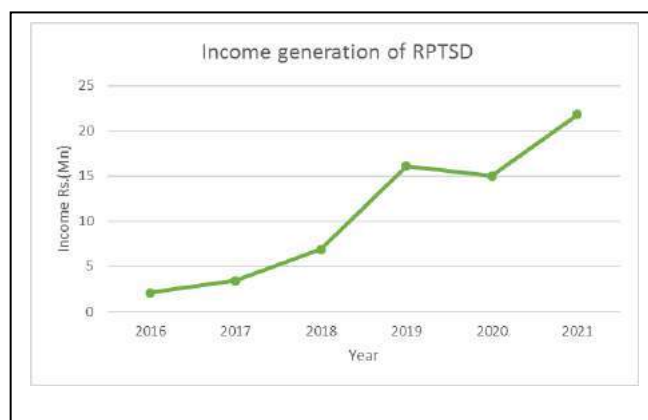
The SLAEB has made arrangements to provide the automated monitoring data collected by the automated radiation monitoring system to the International Radiation Measurement Information System (IRMIS) of the International Atomic Energy Agency (IAEA).

5.4.6.3 Workplace Monitoring Programme

Workplace monitoring assesses the radiation levels in the workplace, which provides information to identify the control areas and individual dose under the working conditions. This service is systematically established and continuously providing service to the workplaces. Radiation level surveys using ambient Gamma dose surveys and Atmospheric Radon measurements are assessed here. 02workplace monitoring services have been conducted during 2021.

5.4.7 Information Technology Service

As an internal service, the SLAEB provides IT support services for office administration and scientific activities. Office automation activities that are related to financial planning, record keeping & invoicing, physical distribution & logistics, and maintain personal records are assisted from this section. Scientific activities such as implementing scientific programs and events and knowledge management activities highly utilize the IT facilities.



Income Generation of SLAEB

The following activities were carried out in 2021 by this section.

- i. Development of the new official website for the SLAEB.
- ii. Expansion and maintenance of hardware and network facilities.
- iii. Initiation of the implementation of ERP (Enterprise Resource Planning) base office automation system.
- iv. Provisioning of repair and maintenance services for computers and related hardware.
- v. Routine maintenance activities of the mail servers, network, and official website.
- vi. Provisioning of software-related services and maintenance work.

	2016	2017	2018	2019	2020	2021
Personnel Monitoring Service (PMS)	1.68	2.86	5.66	12.10	13.67	20.67
Secondary Standard Dysentery Calibration (SSDL)	0.21	0.21	1.04	0.92	0.73	0.81
Nuclear Instrumentation (NIL)	0.00	0.04	0.07	2.98	0.20	0.11
Radiation Monitoring Service (RMS)	0.06	0.18	0.06	0.13	0.07	0.26
Nuclear Security (NS)	0.12	0.14	0.06	0.00	0.36	0.00
Total (Rs. Mn.)	2.08	3.43	6.89	16.13	15.03	21.85

**Income Generation of the Radiation Protection and Technical
Services Division**

5.5 Industrial Applications Division

Industrial Applications Division (IAD) is currently engaging in research and development activities as well as related services in connection with scientific disciplines named isotope hydrology, radiation processing and isotope ecology. In addition to that school education programme is coordinated by the IAD to make teachers and school children aware on nuclear technology.

There are two sub-Sections in IAD; Isotope Hydrology Section and Radiation Processing Section. Isotope Ecology and School Education programme are newly added to the IAD and they will be developed up to sub sections in the Division in future.

Under the above scientific disciplines, projects related to environmental assessment and protection, particularly related to water issues are conducted. Also, material development for industry, health, agriculture and archaeology is carried out using radiation technology. Meanwhile, IAD provides related consultancies and analytical services for the stakeholder institutes and other respective research institutions and organizations. Mostly the research projects are conducted in IAD in collaboration with national and international institutes/organizations to fulfil the national needs.

5.5.1 Isotope Hydrology Section:

5.5.1.1 Groundwater investigations in the Malwathu Oya basin and Lower Mahaweli Basin

This study was conducted under the technical cooperation programme of the IAEA (National TC programme). The natural contaminants in groundwater; the main drinking water source in the above areas were focused under the project.

Field sampling was completed during 2021. The collected samples were analysed for chemical parameters at SLAEB. The same sample set was prepared to send Chinese Academy of Sciences (CAS), China.



**Collecting water samples from a Shallow Irrigation Well
using an Electric Water Pump at Mannar**

The data were evaluated and used by a Scientific Officer (Isotope Hydrology Section) who is currently reading for her PhD in CAS. Although the project was planned to complete by the end of 2021 most of the samples could not be analysed for isotopic parameters due to equipment faults.

The two liquid water isotope analysers and the Liquid scintillation counter showed malfunctioned in 2021 and the problem could not be fixed with the prevailing pandemic situation. A technical person from Noki Technology, India visited SLAEB to rectify the problem encountered by LSD. He couldn't fix the problem entirely and the equipment could not perform well during 2021.

The liquid water isotope analyser received in 2020 from the current TC project was installed during the first quarter of the year. The same had to be sent to the manufacturer due to a factory fault in the equipment.

5.5.1.2 Vulnerability Assessment of Shallow Coastal Aquifer System from Colombo to Negombo in Western Part of Sri Lanka Using Isotope and Chemical Methods

Colombo to Negombo in Western coastal zone comprises highly productive shallow sandy, lateritic, deep fractured and weathered hard rock aquifer units and over 90% of the population in the area use groundwater for drinking, domestic and other purposes up to recent past.

It is well understood that the groundwater resource of this aquifer system is much more important to the development of the country as it is one of the high potential freshwater sources existing closer to Colombo Capital.

From Colombo to Negombo, several industrial zones consisting different types of manufacturing plants are located. The preliminary objective of the study was to understand

the natural and anthropogenic contaminants/pollutants in the aquifer system. Also, the groundwater recharge/origin, age of groundwater, interaction of surface water and groundwater, seawater intrusion, water quality will be investigated using isotope and chemical methods.



Collecting water samples from a Pumping Well and from a Groundwater Monitoring Well

The first field visit was made in the year 2020 and the collected samples were analysed for major ions and basic chemical parameters during 2021. IAEA supported the project by providing laboratory consumables and equipment for sample preparation for C-14 and tritium in water.

5.5.1.3 Isotopes in Rain across Sri Lanka

Spatial and temporal variation of isotopes in rain across the country has to be understood as baseline information for any isotope hydrological, isotope ecological and climate studies. Hence it is important to collect rain water in different geographical locations in Sri Lanka. The phase-1 of this survey was completed during the period from 2012 to 2015 in North-Central, Eastern, Central and some parts of North Western provinces. In 2018, phase-2 of the above survey was started in Southern, Uva, Sabaragamuwa, Western and some parts of Eastern and North-Western provinces.



Rain water collected monthly by a villager at Maha Oya (Eastern Province)

More than 20 rain collection stations were temporarily established for monthly collection of rainfall for about three years. Field visits were arranged to collect the samples for 2019, 2020 and 2021.

Also, the Isotope Hydrology Section has been collecting rain water for Global Network of Isotopes in Precipitation (GNIP) programme conducted by the IAEA since 2008. Under this program, sampling setups have permanently been established at Colombo, Katugastota and Jaffna. SLAEB has been sending rain water samples annually to the IAEA for this purpose. The data can be downloaded from IAEA's GINP data base for regional and local studies on hydrology, ecology and climatology.

5.5.1.4 Establishment of database of water sources of bottled water industry

The origin of water sources can be characterized by isotopic and hydro-geochemical fingerprints. Bottled water industry is being expanded day by day and the number of bottled water manufacturers in the country is increasing annually. With the increasing demand and the higher economic value obtained, some fake products have been introduced to the market.

Waters used in bottled water industry originate from various geographical locations and have a distinctive isotopic and hydro-geochemical fingerprint. Bottled water sources can be traced easily and fraudulent products in the market can be identified just by analysing water bottles in the market. Quality of water in the bottled water sources can be determined by analysing basic chemical parameters, major ions and tracer elements. The sustainability of water sources can be determined with the age data of the water sources.

This study was planned as a pilot project for the above purpose. Letters were sent to the stakeholders in the bottle water industry expressing our interest in the study covering all the geographical areas in the country. 17 companies were agreed to send the samples monthly. The samples were collected from November 2021 and chemical parameters were measured during 2021.

5.5.1.5 Accreditation of Water Quality Analysis by Ion Chromatography

ISO/IEC 17025 Certification is providing proof of competency to the results of the testing done in laboratories. It is the global quality standard for testing and calibration laboratories. It is the basis for accreditation from an accreditation body. ISO/IEC 17025 Certification standard published by the International Organization of Standardization ISO and International Electrotechnical Commission IEC to maintain competency in testing and laboratories.

ISO 17025:2017 specifies the general requirements of the laboratories for impartiality and operate competently with valid results and consistent operation by promoting the confidence in their work to provide results accepted nationally and all over the world. Standard operation Procedures and the Quality Manual were drafted and calibration plots were prepared for water quality analysis by Ion Chromatography as required by ISO/IEC 17025 Certification.

5.5.1.6 Research Conducted in Collaboration with State Universities

Two undergraduates from the University of Peradeniya and Wayamba University of Sri Lanka were trained on isotope hydrology under their industrial training requirements.

5.5.1.7 Research Publications in year 2021

Following research publications were done in collaboration with stakeholder organizations/institutes in 2021.

- i. Senarathne, S., J.M.C.K. Jayawardana, E.A.N.V. Edirisinghe & Chandrajith, Rohana, (2021). Geochemical and isotope evidence for groundwater mineralization in a semi-arid river basin, Sri Lanka, *Applied Geochemistry*, 124, 104799. doi: [10.1016/j.apgeochem.2020.104799](https://doi.org/10.1016/j.apgeochem.2020.104799)
- ii. Matiatos, I., Wassenaar, L.I., Monteiro, L.R. *et al.* Global patterns of nitrate isotope composition in rivers and adjacent aquifers reveal reactive nitrogen cascading. *Commun Earth Environ* 2, 52 (2021). <https://doi.org/10.1038/s43247-021-00121>
- iii. Galhenage, A.C. *et al.* (2021). Assessment of Groundwater Quality for Drinking Water from Deep Confined Aquifer in Wanathawilluwa. In: Dissanayake, R., Mendis, P., Weerasekera, K., De Silva, S., Fernando, S. (eds) ICSECM 2019. Lecture Notes in Civil Engineering, vol 94. Springer, Singapore. https://doi.org/10.1007/978-981-15-7222-7_41
- iv. Priyadarshane K.S.G.S., Edirisinghe, E.A.N.V., Dharmagunawardhane, H. A., Pitawala, H. M. T. G. A. (2021). Source and mechanism of recharge of deep groundwater in different flow regimes of Sri Lanka: A study based on environmental isotopic and chemical signatures. *Symposium Proceedings*, Eight International Symposium on Water Quality and Human Health: Challenges Ahead, 26 & 27 November, *Post Graduate Institute of Science*, University of Peradeniya, Sri Lanka.

5.5.2 Isotope Ecology Section

Stable isotope geochemistry represents a powerful tool for better understanding biogeochemical cycles, species distributions, contaminant cycling, food webs, and ecosystem structure. First, isotopic ratios in an organism's tissue reflect the isotopic ratios of what it eats or grows in, and second, local isotopic ratios vary spatially across the face of the earth. Combining this knowledge, scientists could make inferences about the dietary habits and migration pathways of birds, mammals and fish, as well as contaminant cycling and accumulation in species and their habitats. There is a growing need for such information and stable isotopes offer a new approach to integrating earth and life sciences in the context of conservation and environmental change.

4.5.2.1 RAS5092 Increase of Crop Productivity under Drought Conditions by Using Isotope Techniques to Optimize Water Usage

“Increase of Crop Productivity under Drought Conditions by Using Isotope Techniques to Optimize Water Usage” is application research related to agriculture. A two-year project was

developed on this area (agriculture & ecology) which is for the Asia Pacific Region under the Regional Cooperative Agreement of the International Atomic Energy Agency for the years 2022-2023.

The project was selected to implement from the year 2022 under extrabudgetary contributions. The Lead Country of this Regional Project is Sri Lanka. The project aims to contribute to food security through improved crop water productivity in water-limiting conditions using isotopic and related techniques (nuclear-integrated techniques) while saving water for everyday life. It is expected to enhance the yield component of biomass production while saving water for continuous use for irrigation and all the other needs. End-users will be benefited through proper irrigation water management techniques developed by the end of the project.

In order to initiate planned activities in 2022, a smart green house was established as an infrastructure for the project. In addition, laboratory infrastructure for plant water extraction was improved in 2021.

4.5.2.2 Establishment of SMART Greenhouse System:

The SMART greenhouse system was established in the year 2021. The size of the greenhouse is 500 ft². It consists of an irrigation system, fertigation system, soil moisture detector system and climate control system. The greenhouse can be operated both manually and automatically.

The greenhouse was established to cultivate chili plants in controlled conditions as the first trial crop for the project. 75 nos. of chili plants can be housed in the greenhouse.



Picture inside the SMRT Green House at the NCNDT Premises



SMART Green House (Area: 500 ft²)

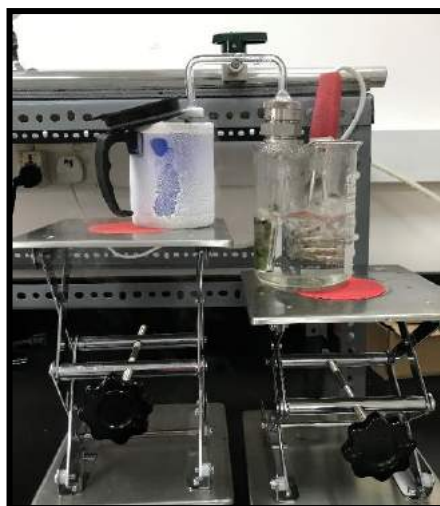
4.5.2.3 Cryogenic Vacuum Distillation Unit:

The need for a rapid, inexpensive technique for routine extraction of water from plants and soil samples for Oxygen-18/Oxygen-16 (18O/16O) and Hydrogen-2/Hydrogen-1 (D/H) isotope ratio measurements are increasing due to the greater demand for isotopic data in

agroecological, soil water, evaporation and transpiration partitioning and hydrological studies. The common sample extraction technique is vacuum distillation.

The Cryogenic Vacuum Distillation (CVD) setup (basic setup) available in the SLAEB was modified to enhance the plant water extraction ability with the help of the Glass Blowing Unit of University of Kelaniya in 2021.

Meanwhile, administrative formalities were done to obtain an advance CVD from the IAEA.



Cryogenic Vacuum Distillation Setup (basic

4.5.3 Radiation Processing Section

Radiation Processing Section (RPS) of the SLAEB conducts research and development activities with the primary objective of material development and value addition using ionizing radiation. R & D activities are performed in collaboration with other research institutions to address the agricultural, environmental health and industrial issues in the country.

In a collaborative study with the Department of Chemistry, University of Sri Jayewardenepura, gamma radiation-curable formulation of purified cashew nut shell liquid (CNSL) in a combination of reactive monomers was studied to assess the potential in conservation applications (under the IAEA TC project on “Harnessing Nuclear Science and Technology for the Preservation and Conservation of Cultural Heritage” - RAS 1021).

This study included the development of several formulations, optimization of irradiation conditions under different atmospheric conditions, and evaluation of polymer deposition yield, water repellency, tensile strength, tear strength, and anti-fungal properties of paper-based material treated with the above formulations. The thermal stability and aging characteristics of treated papers were studied using thermogravimetric analysis.

This study reveals that radiation-induced graft copolymerization resulted in considerable improvements in tested properties when compared to uncoated papers.



Chemical Preparation for preserving a printed material

Further, in another study, number of chemical formulations were developed using reactive monomers and resins and applied to naturally aged paper, followed by gamma irradiation. Extent of graft copolymerization was determined by the gravimetric measurements and samples were characterized by Scanning Electron Microscopy (SEM) and evaluated for their physical properties such as tensile strength (ISO 1924-2) and tearing resistance (ISO 1974). Suitable monomers and resins were selected based on the literature and results of the preliminary trials, while application by immersion was observed to be superior over spraying method. Gamma radiation dose was selected to achieve maximum polymerization along with minimum radiation damage to paper materials.

Alkyd resin was analyzed and characterized to determine its chemical composition (by Fatty Acid profile, unsaponifiable matter content and material identification with GC-MS and FT-IR) and physical properties such as viscosity, hardness, gloss and drying time. The results were published at an international conference.

In addition, background study on potential radiation technology applications for polymer recycling in Sri Lanka under the IAEA TC project on “Reutilizing and Recycling Polymeric Waste through Radiation Modification for the Production of Industrial Goods” (RAS1024) was done in 2021. The findings of the study revealed that the existing industry has been dominated by the informal, small & medium entrepreneurs. Inconsistency in supply of plastic waste, price fluctuations (virgin plastic vs recycled) and mixed waste, contamination and sorting related issues have been commonly reported. Majority of the currently recycled products are been down-cycled while only few companies have emerged with advanced applications like utilization of recycled PET for production of textile yarn and waste plastics in construction materials such as concrete or asphalt.

To disseminate knowledge on radiation processing technology, the Section conducted an online lecture and submitted an article for a magazine.

Further, the Section has joined a new IAEA project in 2021. It is focused on “Monitoring the marine environment for enhanced understanding of the abundance and impact of marine plastic pollution” (RAS7038). The virtual kick-off informative meeting of this project was held virtually in the last quarter of 2021 to discuss the project background, objectives, and future activities (work plan for 2022-2023).

Publications

- De Silva, K. R. C.; Ratnayake, A. K.; Ratnayake, S. Y.; Pathirana, C. D. R.; Alwis, H. A. A. N.; Katugampola, M.; Abayrathna, A. H. M. H.; Chinthaka, S. D. M (2021), Gamma Radiation Curable Polymers for Safeguarding Tangible Cultural Heritage: Sri Lankan Experience in Paper Conservation. 3rd International Conference on Intangible Cultural Heritage – ICICH 2021, University of Sri Jayewardenepura, 22 - 23 December 2021 (Pg. 63).

4.5.4 Programme of Introduction of Nuclear Science & Technology for Schools

Across the nation, there exists a void of real understanding of most of the things related to nuclear science and technology. General attitudes of most areas of the country, reflect an anti-nuclear mindset because of some negative experiences of nuclear accidents that occurred in a few places in the world.

Further, the media is taking every opportunity to highlight problems related to the use of nuclear technology/radiation rather than talking about the vast benefits we are receiving even at the moment.

Aware that sustainability of nuclear applications can only be achieved through a pipeline of a highly trained and motivated workforce, the SLAEB has undertaken efforts to reach out to young school students to enhance their understanding of nuclear sciences and enhance their interest by highlighting a clear and easily understandable manner the important role nuclear has in everyday life through structured learning as well as extra-curricular activities. The active collaboration of SLAEB and the Ministry of Education (MoE) in Sri Lanka has achieved success in reaching out to young students and exciting them in learning subjects related to nuclear sciences. The success of these programmes is due to achieving of

- i. Updating of A/L Physics curriculum Training programmes for island-wide A/L Physics teachers on the updated curriculum
- ii. Building up of resource team of science teachers for NST
- iii. Providing international training opportunities for teachers and science officers of MoE
- iv. Conducting awareness programmes / training / workshops at schools
- v. Participating in exhibitions
- vi. Providing facility visits
- vii. Coming into agreement on supplying locally fabricated radiation measuring equipment

viii. Developing self-learning online modules for students etc....

Now we are planning to expand the scope of this initiative further to a higher level of learning focusing on integrating NST with the post-school education in various fields so that a pipeline of adequately trained human resources remains available ensuring continuity of harnessing the use of NST. Additionally, it is highly important to sustain the momentum of the success of the school education programme while expanding it to the next level.

5.5.4.1 The Smart book on Nuclear Science & Technology for Secondary School Students

The smart book is an electronic self-education module on Nuclear Science & Technology. This module consists of five chapters. The chapters are on basic radiation, units and measurements, radiation protection and health effects, nuclear power and radiation applications. Each chapter includes course content, a questionnaire and a simple game that was incorporated to increase the interest of the students. Five chapters were developed in five different formats dialogue, presentation, story, cartoon and facts. The Sinhala version of the smart book was finalized in Moodle software. Finding out a suitable server was a challenge. With the intervention of Prof. S.R.D. Rosa, the Chairman of SLAEB, a meeting was held with the State Ministry of Education Reforms, Open Universities & Distance Learning Promotion and they agreed to provide access to the e-thaksalawa which is the official learning management system of the General Education System in Sri Lanka. The Sinhala smart book was incorporated into the e-thaksalawa under the URL of <https://www.e-thaksalawa.moe.gov.lk/Courses-EN.html>. The Nuclear Science & Technology e-book was available for students in the Sinhala language.



Figure 30: SMART Book, Sinhala version at E-Thaksalawa

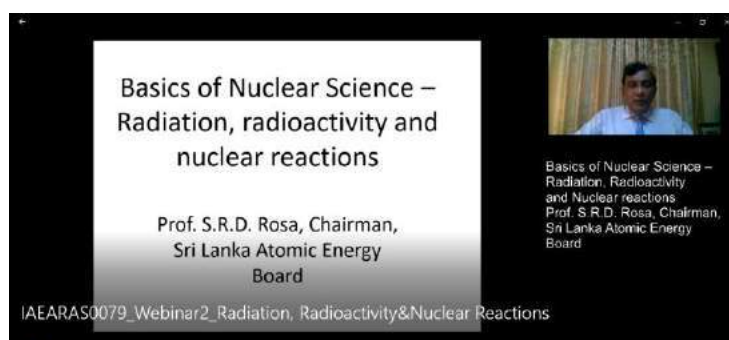
5.5.4.2 Contribution to the IAEA Webinar Series

The objective of the IAEA TC Project; RAS0079 is to expand and sustain nuclear science and technology information, education and communication among secondary school students and teachers in the Asia Pacific Region. Sri Lanka is a participating country. With this aim, the IAEA has organized a series of educational webinars in English, presented by experts in the field in the region on selected topics related to Nuclear Science and Technology (NST)

including its application in meeting the Sustainable Developmental Goals. Sri Lanka contributed to two sessions. This webinar was open to all students, teachers, radiation protection officers and counterparts that would like to know more about NST and its application in the region.

Webinar No. 2: Basics of Nuclear Science – Radiation, Radioactivity and Nuclear Reactions

Date: 15 June 2021
Time: 6:30-9:00 AM (CET) Vienna, Austria
Topics: Radiation, Radioactivity and Nuclear Reactions.
Q&A session
Presenter: Prof. S.R.D Rosa, Chairman of SLAEB



IAEA Webinar on Radiation, Radioactivity and Nuclear Reactions by Prof. S R D Rosa, Charman-SLAEB

Webinar No.5: Isotope techniques for Water's Secret: Basic Principles and Applications of Isotope Hydrology

Date: 10 August 2021
Time: 6:30-8:00 AM (CET) Vienna, Austria
Topics: Groundwater Occurrence
Basic Principles of Isotope Hydrology Applications of Isotope Hydrology
Presenter: Dr. Viraj Edirisinghe, the Director of Industrial Applications Division (IAD)
Moderator: R.R.U.R. Perera, Scientific Officer, IAD



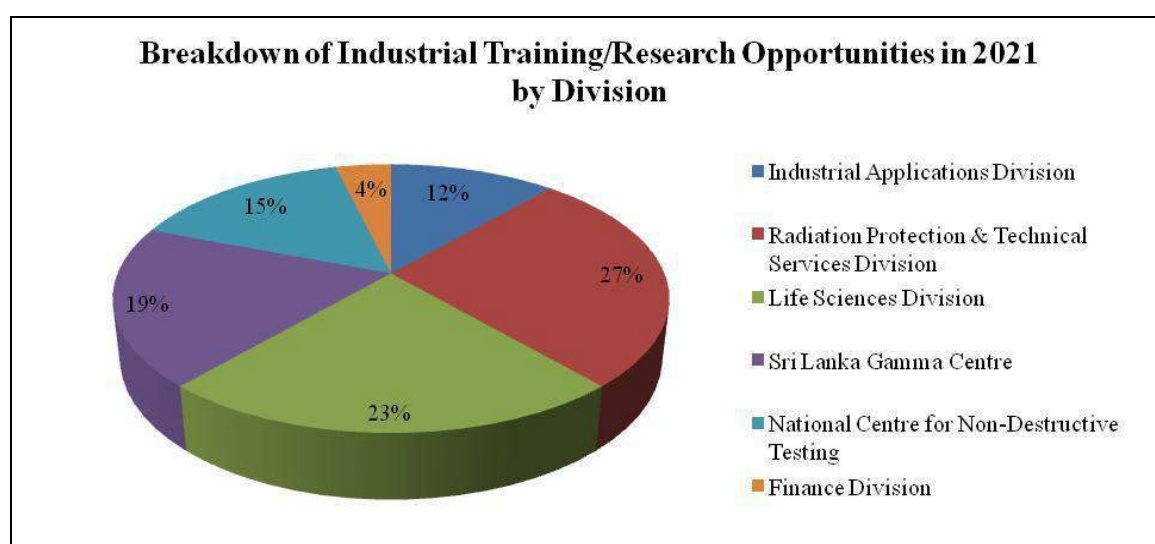
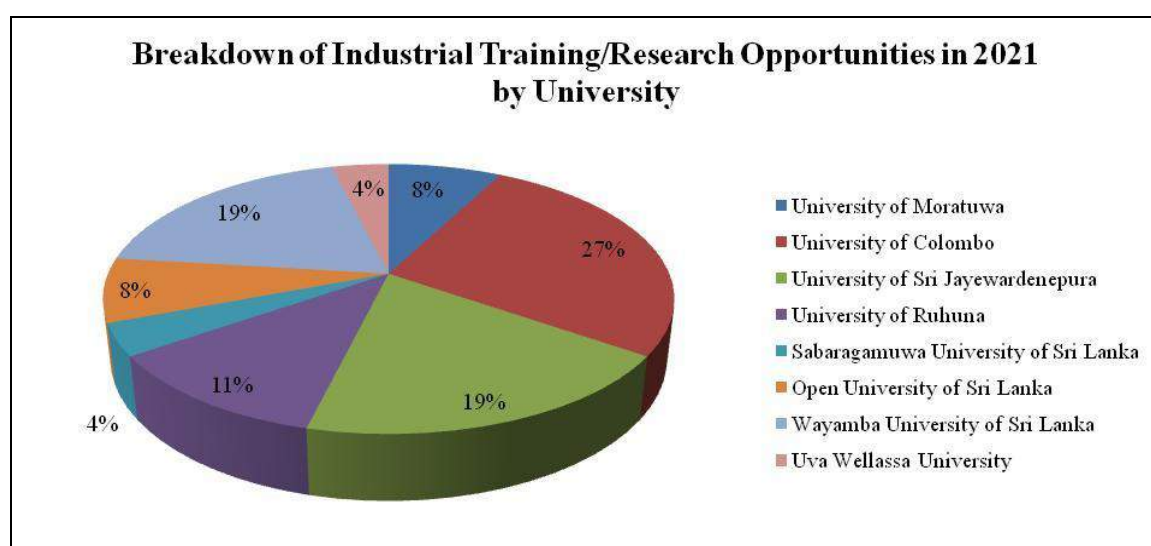
Figure 32: IAEA Webinar on Isotope Hydrology by Dr Viraj Edirisinghe, Director-IAD, SLAEB

5.5.5 Industrial Training / Internships / Research Opportunities for the Students of Universities, Research & Tertiary Educational Institutions

Sri Lanka Atomic Energy Board has been engaged in providing industrial training/internships/research opportunities for the students of universities, research and tertiary educational institutions, with the objectives of:

- Promoting and encouraging the peaceful applications of nuclear science and technology
- Disseminating the knowledge and training personnel on novel developments and applications related to ionizing radiation and complementary techniques
- Creating awareness and enhancing the level of public acceptance for the nuclear technology in the country
- Transferring the expertise knowledge and experience in the field to future generations

SLAEB has accommodated 25 undergraduate students and 01 postgraduate student in 2021 and the detailed information is illustrated below.



Industrial Training / Internships / Research Opportunities

6.0 International Cooperations Division

6.1 Technical Cooperation through International Atomic Energy Agency and Other Related International Bodies:

International Cooperation Division (ICD) of Sri Lanka Atomic Energy Board (SLAEB) which is functioning as the National Liaison Office to the International Atomic Energy Agency (IAEA) is mainly responsible for coordination for activities with IAEA in order to obtain technical assistance under its Technical Cooperation (TC) Programme to develop nuclear science and technology which leads towards the socio economic development of the country and it also deals with IAEA Member States to initiate and implementation of bilateral activities.

The Division has been effectively carrying out SLAEB's role as the National Focal organization on behalf of Sri Lanka to the International Atomic Energy Agency in order to acquire the recognition of the International Atomic Energy Agency in conforming to its stipulations, as well as in securing substantial assistance received from the IAEA in the enhancement of nuclear technology related applications in the country. IAEA provides technical assistance to its member states under Technical Cooperation (TC) projects in the forms of fellowships, scientific visits, training, expert mission which are focused to develop human resources in nuclear field and the equipment required to perform the planned activities of projects and the International Cooperation Division is assigned planning, designing, implementation and evaluation of these project in order to obtain the maximum benefits to the country through IAEA TC. Such technical assistance is received through the various projects implemented according to the geographical bases which are mentioned below.

- National Technical Cooperation Projects (TC Projects)
- Regional Technical Cooperation Projects (Agreement/ Non-Agreement Projects)
- Inter-Regional Technical Cooperation Projects

6.1.1 Other Projects and programmes

- Research Contract Programme (Coordinated Research Projects- CRP)
- Nuclear Power Study and Planning Project (in collaboration with Ceylon Electricity Board - CEB)
- Nuclear Knowledge Management Activities
 - Activity Day Programme (Disseminate the Nuclear Knowledge and strengthen the Local Capacity)
 - Foreign Training Evaluation Committee (FTEC) activities
 - LMS (Learning Management System) Development
 - IoT (Internet of Things) etc.

This division also coordinates with other international organizations mentioned below in order to obtain technical assistance in the field of nuclear technology.

- Regional Cooperative Agreement Regional Office (RCARO) in Korea

- Ministry of Education Sports Culture Science and Technology (MEXT) Japan
- Japan International Cooperation Agency (JAICA)
- Fukui International Human Resources Development Centre, Tsuruga, Japan
- Korean International Cooperation Agency (KOICA)
- International Center for Theoretical Physics (ICTP) Trieste, Italy
- Russian State-owned Atomic Energy Cooperation (ROSATOM)

During the year 2021, coordination activities were done in order to implement Thirteen (13) National TC projects in Sri Lanka which are mentioned below while involving in other regional and inter regional projects of IAEA.

Despite the COVID19 pandemic situation Sri Lanka was able to obtain several online expert assistances in order to enhance to capabilities of Sri Lankan Scientists and Technical personnel. Six (06) opportunities were received by scientists, engineers and researchers in related national institutes to participate in overseas training, workshop, meetings, conferences etc. and opportunities were also received by our scientists and technical personnel to virtually participate in such events which were organized under regional and inter regional Technical Cooperation projects of IAEA.

Suitable nominees for such overseas events were selected by a committee “Foreign Training Evaluation Committee” and 14 number of committee meeting were held during 2021. Various kinds of valuable scientific equipment and chemicals are required to perform the planned activities of projects were also received in 2021 to counterpart institutes where these national projects were being implemented.

6.1.2 Projects being implemented in 2020/21:

Project No	Title of the Project
SRL/5/050	Supporting Genetic Improvement of Tea
SRL/5/049	Supporting Control of Stomach Worm Infection in Goats
SRL9/011	Strengthening the Regulatory Infrastructure for the Control of Radiation Sources
SRL/6/037	Establishing a Medical Cyclotron Facility for the Production of Positron Emission Tomography Radiopharmaceuticals

The following six (06) national projects were approved to be implemented during next Technical Cooperation cycle 2022/23.

6.1.3 Projects to be implemented during 2022/23

No	Project Title	Name of the Project
1	SRL1010	Increasing the Application of Advanced Non-Destructive Testing Methods
2	SRL2011	Developing National Infrastructure for a Nuclear Power Programme

3	SRL6038	Establishing a Medical Cyclotron Facility to Produce Positron Emission Tomography Radiopharmaceuticals – Phase II
4	SRL9012	Supporting Prerequisites for Quality Cancer Diagnosis and Treatment
5	SRL9013	Strengthening the National Capabilities for Responding to Nuclear or Radiological Emergencies
6	SRL5051	Introducing Climatic Smart Agricultural Practices to Mitigate Greenhouse Gas Emission

6.1.4 The Regional Cooperative Agreement (RCA)

RCA is an intergovernmental agreement for the East Asia & Pacific region, under the auspices of the IAEA. The Regional Cooperative Agreement to promote, coordinate and implement cooperative research, development and training projects in the peaceful applications of nuclear science and technology for Asia and the Pacific (RCA) is an intergovernmental agreement among the IAEA Member States that are located in South Asia, South East Asia, the Pacific, and the Far East.

The various RCA projects that are implemented in Sri Lanka provides nuclear technologies to address socio-economic needs and contribute to sustainable development of the country. These projects are implemented in the areas of Agriculture, Environment, Industry, Human health and Radiation protection.

Sri Lanka presently participating in 14 RCA projects in the above areas.

Through these RCA projects Sri Lankan scientists received opportunities to attend various kinds of meetings, training, workshop etc. through online which were organised by IAEA to be conducted virtually despite the COVID-19 pandemic. Some equipment required to implement RCA activities in the country was requested from IAEA and is to be received. Due to the COVID19 pandemic situation, Sri Lanka was unable to host any IAEA events in Sri Lanka in 2021.

6.1.5 Coordinated Research Projects (CRP) involvement of Sri Lanka

List of the CRP Projects involved by the Sri Lankan Scientists during 2021:

- D52038 - Use of Stable Isotopes and Multiple Elements Analysis as a Traceability System in Authenticating Dairy Products of Sri Lanka to Enhance Food Safety.
- D52040 - Development of Rapid Screening Methods to Assess the Authenticity, Safety and Quality of Imported and Locally Produced Milk Powder in Sri Lanka.
- J02012 - Investigation and Improvement of the Detection Capabilities of the Available Radionuclide Identification Devices (RIDs).
- F32007 - Isotopes to study Nitrogen Pollution and Eutrophication of Rivers and Lakes.
- J 02005 - Collection and Analysis of Radiation Detection Data of Alarming Containers.
- CRP K41016 - Study of temporal trends of pollution in selected coastal areas by the application of Isotopic and Nuclear tools.
- F23032 - “Developing Radiation Treatment Methodologies and New Resin Formulations for Consolidation Preservation of Archived Materials and Cultural Heritage Artefacts”
- K41015- “Radioanalytical and Isotopic Studies of Climate Trends and Variability in Marine Paleo-records in Sri Lanka”
- I12007 – “Economic Appraisal of Small Modular Reactor (SMR) Projects: Methodologies and Applications”
- J02014 - Advancing Maintenance, Repair, and Calibration of Radiation Detection Equipment

Non-Agreement Regional Projects out of the RCA had been formulated to address regional issues by enhancing Human Resources Development.

Those projects were mainly on; Human Resource Development by providing opportunities for local scientists and other officers to attend trainings, meetings and workshops at the institutions of excellence in the fields of industry, medicine and agriculture in Member States of the IAEA where radiation technology is used and secondarily for providing expert service.

Sri Lanka was able to get approved a regional one (01) Inter - regional project were implemented during the year 2021 and projects in this nature have been developed in order to address prevailing issues that are not only relevant to one region but other regions such as Europe, Africa and Latin America as well.

In addition to the activities of the above-mentioned project categories, IAEA provides opportunities for its member states offices who are working in the field of peaceful application of

Nuclear Science & Technology to obtain international exposure by attending training, workshop, meeting, symposia and conferences regionally.

During 2021, SLAEB received several virtual based Knowledge sharing/ training opportunities from the following institutions; Ministry of Education, Culture, Sports, Science and Technology (MEXT) in Japan, Fukui International Human Resources Development Centre, Tsuruga, Japan, Korea International Cooperation Agency (KOICA) and Regional Cooperative Agreement Regional Office (RCARO) in South Korea, International Centre for Theoretical Physics in Italy (ICTP) and the Russian State owned Atomic Energy Cooperation, “ROSATOM” etc. which were immensely beneficial to the country.

6.1.6 Foreign Training Evaluation Committee (FTEC)

SLAEB Conducted Fourteen (14) Foreign Training Evaluation Committee (FTEC) meeting of SLAEB during Year 2021 and make arrangements to send the prospectus to relevant officials from government Institutions (Both Internally and externally) to attend the Technical Meetings, Workshops, Training Courses in abroad.

6.2 Nuclear Knowledge Management

Nuclear Knowledge Management consists of three (03) fundamental components: people, processes and technology. Knowledge management focuses on people and organizational culture to stimulate and nurture the sharing and use of knowledge; on processes or methods to find, create, capture and share knowledge; and on technology to store and make knowledge accessible and to allow people to work together without even if they are not located together. People are the most important component, because managing knowledge depends upon people’s willingness to share and reuse knowledge.

Knowledge Management programs are typically tied to organizational objectives and are intended to achieve specific outcomes, such as shared intelligence, improved performance, competitive advantage, or higher levels of innovation. The division was able to conduct several activity programmes so that officers who participated in international event can share their knowledge among other interested personnel.

6.3 Nuclear Power Study and Planning Programme – 2021

SLAEB officials attended many Discussions/ Meetings to implement the proposed agreement between Sri Lanka and Russia on cooperation in the field of Peaceful uses of Nuclear Energy for peaceful purposes.

Date	Name of the Event	Venue	Stakeholders	Remarks
22 nd April 2021	Meeting	Ministry of Power, Colombo 03	Russian Embassy, Ministry of Power & SLAEB Officials	Project Implementation Matters
29 th April 2021	Meeting	Ministry of Power, Colombo 03	Ministry of Power & SLAEB Officials	Cabinet paper submission Issues
24 th June 2021	Discussion	Virtual Format	ROSATOM, SLAEB & Officials	Proposed Cyclotron facility and Russian Agreement
30 th June 2021	Discussion	Virtual Format	ROSATOM, SLAEB & Officials	Articles of Russian Agreement
22 nd July 2021	Discussion	Ministry of Power, Colombo 03	Ministry of Power & SLAEB Officials	Conducted a Presentation to the Hon., State Minister, State Ministry of Solar, Wind and Hydro power Project Development and explained the Current status of Nuclear Power Planning Programme and proposed ROSATOM Agreement
24 th August 2021	Discussion/ Presentation	Virtual Format	Ministry of Environment, Ministry of Power & SLAEB Officials	Conducted a Presentation to the Secretary, Ministry of Environment and explained the Current status of Nuclear Power Planning Programme and proposed ROSATOM Agreement

SLAEB organized a virtual Lecture of Ms. Helen Cook, GNE Advisory, and Australia in terms of “Implementing an effective legal and regulatory framework for nuclear power technology” to Sri Lankan Nuclear Professionals.

Sri Lanka Atomic Energy Board (SLAEB) in collaboration with Ceylon Electricity Board (CEB) launched the Project on “Establishing a Roadmap for Nuclear Power Programme in Sri Lanka” under the purview of Ministry of Power & Energy since 2018. IAEA already had given necessary technical assistance to study the Political, Economical, Sociological, Technical, Environmental & Legal aspect to consider the Nuclear Power as a viable option in Sri Lankan context. At present, Sri Lanka has almost achieved the saturation of its hydro resources for electricity generation and

the dependence on imported fossil fuel for electricity generation has increased by reaching more than 50% of the electricity production in the country. With the increasing electricity demand of 5-6% annually in Sri Lanka and expected future developments in the country, it is envisaged that the country needs more energy sources in the longer term.

In fact, it is very important to explore alternative energy supply options to avoid excessive dependence on imported fossil fuels and protect the environment. Nuclear power will become increasingly important as a means of addressing climate change and enhancing socio-economic development in the country as well as the region. Since Sri Lanka is an island nation, the introduction of nuclear power plants and their location should be carefully identified with the agreement of regional cooperation among neighboring countries.

Furthermore, SLAEB involved following activities to strengthen the above-mentioned activities.

- Strengthen the public acceptance and awareness programmes by using the nuclear knowledge discrimination activities.
- Strengthen the HR development programmes related to the nuclear power planning project by providing international level training and exposure to the Engineers/ Scientists and Technical Personnel from stakeholder Institutions.
- Gain International cooperation through the IAEA Assistance to Way forward the proposals on nuclear power planning project under the CEB Least Cost Long-Term Generation & Expansion Plan 2020- 2039.
- Equipped and Strengthen the Sri Lanka government policy based on nuclear energy sources
- Drafted the Working Group Reports to prepare the Self-Evaluation Report & Comprehensive Report during 2021.
- Make arrangement to review the drafted Self-Evaluation Report from IAEA Experts as well as local experts.
- Make arrangement to initiate an IAEA TC project on “Nuclear Power Infrastructure Development in Sri Lanka” for the TC cycle 2022-2023.
- Joined the Coordinated Research Project (CRP) in terms of “Focusing on the economics of Small Modular Reactors (SMRs), including micro-reactors, by providing member states with an economic appraisal framework for their development and deployment to IAEA.
- Revised the Self-Evaluation Report (SER) & Comprehensive Report (CR) as per the review of the IAEA Experts during 2021/2022 period.
- Make arrangement to review the drafted Self-Evaluation Report (SER) with assistance of Ms. Helen Cook, Principal, GNE advisory, Australia and her team of experts

- I coordinated to Conducted the IAEA Workshop on the status of the Nuclear Power infrastructure in Sri Lanka during 25-26th August 2021 as virtual format.
- Way forward the activities Make arrangement to initiate an IAEA TC project SRL/2011 on “Nuclear Power Infrastructure Development in Sri Lanka” for the TC cycle 2022-2023.
- SLAEB attended Coordinated Research Project (CRP) in terms of “Focusing on the economics of Small Modular Reactors (SMRs), including micro-reactors, by providing member states with an economic appraisal framework for their development and deployment to IAEA.

In addition, SLAEB joined the IAEA Inter-regional project INT/ 2023: Supporting Member States’ Capacity Building on Small Modular Reactors and Micro – reactors their Technology and Applications as a Contribution of Nuclear Power to the Mitigation of Climate Change.

Furthermore, SLAEB asking nominations from Ceylon Electricity Board (CEB), Department of Electrical Engineering, University of Moratuwa & Department of Electrical Engineering, University of Peradeniya to attend the IAEA Workshops/ Training Courses and Technical Meetings to acquire the Knowledge and Exposure in terms of Nuclear Power Study and planning.

6.3.1 Working Group Meetings & Steering Committee Meetings of the Project

Established the Project management Unit “To study the Nuclear Power option in Sri Lanka” under the purview of the Ministry of Power & Energy since 10th May 2019 & formed a 09 working groups from SLAEB staff to strengthen the ongoing Nuclear Power Infrastructure Development in Sri Lankan context. Several Working Group meetings, steering committee meetings were held during 2021 as a virtual format to way forward the project as per the IAEA methodology. In addition, conducted meetings for the working groups/ Steering Committees to study the “Nuclear power as an option in Sri Lanka”.

	Type of the Meeting	Participating Institutions	Venue	Date
05	Working Group Meeting	CEB, AEB, AERC	Zoom Meeting	February 2021

Conducted Discussions/ Meetings to implement the proposed agreement between Sri Lanka and Russia on cooperation in the field of Peaceful uses of Nuclear Energy for peaceful purposes.

Date	Venue	Stakeholders	Remarks
22 nd December 2021	Ministry of Power, Colombo 03	Russian state-owned Atomic Energy Cooperation “ROSATOM”	Project Implementation Matters

In addition, SLAEB Conducted meetings for the working groups/ Steering Committees to study the “Nuclear power as an option in Sri Lanka”.

	Type of the Meeting	Participating Institutions	Venue	Date
01	Conducted the Presentation on “Current status of Nuclear Power Study and Planning programme of Sri Lanka” for the Secretary to the Ministry of Environment (MoE)	MoE, CEA, SLAEB	Virtual Format	24 th August 2021

7.0 Administration, Human Resources & Procurement Division

Administration Division is responsible for administering of SLAEB for the best interest of the country and the Government, in full compliance with the law under which it is instituted and other applicable legal requirement and regulations of the Government. Efficient management of the office and office systems, General administration, Procurement, Human Resource Management, Capacity Building, Transport, Maintenance of Non-Scientific Equipment and Building are the main areas that come under the purview of the division.

This division is responsible for preparation of annual administrative reports, human resource development, maintenance of staff Leave and Attendance using web based Attendance System, submitting of cadre updates, submission of capital budget updates, to the treasury , assisting in preparation of specific documents, reports, requested by higher authorities, establishing efficient information and communication systems, management of utility procurement process, management of utility services, and other supporting services requested by scientific and non-scientific divisions of SLAEB.

7.1 Cadre of Administration, Human Resource & Procurement Section

Director	: 01
Deputy Director	: 01
Administrative Officer	: 01
Management Assistant- Procurement Section	: 06
Management Assistant- Personal File	: 02
Management Assistant- HRD/EB/Exam	: 02
Management Assistant- Maintenance Unit	: 01
Management Assistant –DG Unit	: 01
Management Assistant –Transport section	: 01
Management Assistant- Chairman’s unit	: 01
Management Assistant- Receptionist	: 01
Management Assistant- Leave/Attendance	: 01
Management Assistant – General Admin	: 01
Electrician	: 01
Driver	: 05
Office Aids	: 06

7.2 Summary other Activities Carried-out by Administration Division

1. New Year programme was conducted on 1 st of January 2021.
2. Board Approval for Training Plan, Action Plan, and Procurement Plan and HR plan received.
3. Prepared Scheme of Recruitment (SOR) and obtained MSD approval.
4. Conducted Efficiency Bar examination for relevant primary level staff of the SLAEB and all secondary & tertiary level.
5. Obtained Board approval for Bonus payment 2021 according to the PED Circulars.
6. Forward Board approval for balance medical leave payment on approval of the secretary of the Ministry.
7. Make arrangements to pay special allowances of Rs 4000/= according to the Public Administration Circular.
8. Paid Annual increments for all staff.
9. Acquiring of Land in progress. Participated meeting with relevant Authorities.
10. Prepared and Paid monthly salaries for staff
11. Provide Face Masks, Sanitizers, Soaps, Liquid Soaps, Gloves and other health items for staff health protection on COVID 19.
12. Awareness staff on COVID 19.
13. Coordinate COVID 19 Vaccination to the Staff with MOH.
14. Arranged to handover Food Package for those who affected COVID 19.
15. Coordinated, conducted Dengue Prevention Programmes.
16. Replied relevant Audit Quarries of Government Audit and Internal Audit.
17. Implemented web-based Finger Print Attendance System to SLAEB.
18. Obtained board approval to staff confirmation.
19. Participated Ministry, Salary & Cadre and MSD meetings
20. Prepared salary details for the budget of 2022.
21. Granted grade promotions.
22. Continuing procedure to grant NVQ 4 for the Management Assistant – Grade III of SLAEB
23. Coordinate with Municipal Council.
24. Circulated Internal Circulars for smoothly function of SLAEB.
25. Make arrangements to pay gratuity payment for all retired and relevant resigned staff on the date of retirement or resigned.
26. Initiated productivity concept.
27. staff performance appraisal procedure according to the Public Administration Circular 2/2018
28. Development of Human Resources spend Rs. 1,270,180/=.
29. Issued Services Letters.

30. Provide employee compensation insurance from Sri Lanka Insurance Corporation.
31. Settled EPF/ETF and gratuity payments for employee who has resign, retired in 2021
32. Submitted Relevant Board Papers.
33. Provided uniforms for relevant staff members.
34. Provide Communication Facilities.
35. Conducting Disciplinary inquiries.
36. Maintain Haritha Uyana.
37. Supervise Janitorial & Security Services.
38. Completed signing agreement with new building service & equipment's.
39. Provide Medical insurance for all staff.
40. Provide medical test for scientific staff & other non-Scientific staff.
41. Obtained staff compensation insurance for all staff.
42. Obtained cash in transit insurance.
43. Provide infrastructure facilities. (Water, Electricity & Telephone)
44. Maintain Vehicle Pool and provide Group transport for Executive staff.
45. Conducted staff Grievance Committee recommendation for staff promotion.
46. Maintain personal Files
47. Maintain Foreign Training bond and Agreements.
48. Maintain Declaration of Assets and Liabilities of staff Provide refreshments for meetings and events.
49. Obtain Board approval for staff confirmation.
50. Handling all incoming mails and outgoing mails.
51. Provide customer service/Reception service.
52. Maintained rules and regulations.
53. Provide Newspapers.
54. Completed Clearance of Procurement items 2021.
55. Maintain Record Room of SLAEB.
56. Maintain Staff Leave & Attendance
57. Attended relevant Labor Department Inquiries.
58. Coordinated two days Strategic Planning workshop during 18-19 at Laya Beach Hotel Wadduwa.
59. Coordinated board subcommittee on Audit Matters & Salary Anomalies.10 meetings were conducted.
60. Prepared Work Instructions Procedures for Admin Staff.

7.3 Human Resources Development

57 staff members attended short term local training programmes with a view to improve individual career path way related to SLAEB.

In addition group training programmes were organized with a view to improve the basic knowledge of the staff on Office System & General Administration, Financial Regulation & Accounting System, Basic Procurement and Establishment Procedure. Also conducted series of workshops for improve knowledge on Efficiency Bar Examination candidates.

In Addition to that successful two days' work shop was conducted by the Board members for SMC staff to prepare Strategic Plan for SLAEB during 19-20 at Laya Beach Hotel Wadduwa.

Total expenses for above activities is Rs.1, 270,180/=.

7.4 Procurement of Capital Items and Services Obtained from Recurrent Expenditure 2021

Capital Items for 2021	
Cobalt 60 – SLGC	<u>105,258,595.59</u>
NCNDT Building	<u>28,263.00</u>
<i>Scientific Equipment</i>	
Lab Jacks Nos 4	71,424.00
Cryogenic Container IAD	140,200.00
Circular Saw Machine	13,970.00
TIG Welding Plant	60,308.00
PT 100 Thermocouple Sensors	53,460.00
Digital X- Ray Survey Meter.	3,800,000.00
Bench Grinder for Tungsten tip sharpening	19,500.00
Bench Wise..	29,500.00
Purchase TIG Accessories for WQF	53,381.16
MIG/MAG Welding with accessories	372,859.92
Digital Thermometer to GSD	21,600.00
Gamma area monitor for SLGC	963,953.08
Electrochemical Cell	48,828.00
Supply & Delivery of Oscilloscope	670,760.00
Fabrication, Supply & Delivery of Lead Glass	256,560.00
SMAW Machine NCNDT	118,800.00
Net Gate Router- GSSD	77,431.18
Pressure Regulators - IAD	65,200.00

CNC Router & Drill	775,000.00
X-Ray Tubes GSD	460,362.00
X ray tube & Cooler water	24,457.99
Thermometer	10,920.00
High Purity Co2 & O2 Gas Cylinder	727,826.10
Esco Fume Cupboard	423,360.00
Argon Gas Cylinder	294,791.40
Supply & Installation of laser Cutter	1,782,000.00
Analytical Balance for LSD	522,700.00
Thermometer to NCNDT	9100.00
laboratory Jacks	5,376.00
40 NB Globe Valve	6,372.00
Gas Cylinder for welding Unit- NCNDT	62,015.54
Creating and Automated Ultrasonic Scanning System	19,485.00
Total Amount	<u>11,961,501.37</u>
Office Equipment , Furniture & Fittings	
Cash Box	3,900.00
Heavy Duty Hydraulic Floor Jack	59,200.00
Heavy Duty Ladder	12,500.00
Aluminium Heavy Folding ladder	31,800.00
Rice Cooker	5,310.50
Gas Cooker	6,975.00
Plastic Pallets	590,750.00
Air compressor	623,948.40
Fabrication, Supply & Delivery of Steel Table	144,200.00
stationery and consumables	4,536.00
12.5 Kg Cylinder with Gas	5,450.00
Pneumatic Hose	15,000.00
Horizontal Multistage Water Pump with flexi...	166,860.00
CCTV Camera & Accessories	385,900.00
Compact Jigaw	23,220.00
Tool Box	5,500.00
Multi- Functional Electronic Battery Charger	17,100.00
Spray Gun	12,800.01
Punch & Chisel Set	3,300.00
pneumatic Accessories	221,708.00
Hydraulic Pallet Jack	129,600.00
Design, Fab., Supply & Installation of Lab interior &	5,385,868.25

Furniture	
Total Amount	<u>7,855,426.16</u>
Library	<u>23,450.00</u>
Computer Software & accessories	
CB C040-External Hard Disk	62,500.00
graphic digitizer tablet of NCNDT	16,900.00
High End Laptop Computers	1,149,000.00
capitalize the server computer of PMSL System	397,800.00
Total Amount	<u>1,626,200.00</u>
Electronic Equipment	
CB C039-UPS	20,000.00
Dot Matrix Printer PO 5269-14501	52,950.00
Total Amount	<u>72,950.00</u>
Scientific Equipment Donation	
Donation received from IAEA (Vacuum pressure Gauge ,Tweezers etc.	1,991,480.31
Vacuum pressure gauge, Tweezers	795,496.34
Software installation & training on FTIR Spe...	234,385.38
survey meter received from IAEA	816,087.79
Radiation Monitor	771,942.80
Cryo Mixer Mill	2,682,260.10
Rapid Oxy Cube	766,980.80
Total Amount	<u>8,058,633.52</u>
Software Package	
Being accounting the advance settlement on CB 326	200,000.00
Being capitalize the server computer of PMSL System	680,000.00
Being capitalize the barcode system accounted as working progress	200,000.00
Total Amount	<u>1,080,000.00</u>
Laboratory Consumables -SLAEB	
Liquid Nitrogen PO No 5075	47,039.00
Chemicals - IHS PO No : 4940	11,178.00
Lithium Battery with welding terminals	2,950.00
Milk Powder for Lab Uses	4,560.00
Local Milk Products & FCMP / IMP	7,919.15
Total Amount	<u>73,646.15</u>
Laboratory Consumables –SLGC	
Refilling Gas Cylinder-SLGC	4,970.00

Micropipette & Pipette tips SLGC PO No 243	19,582.00
High Temperature Grease / Normal Grease Po 252	63,250.00
WD Can & cotton waste PO No : 215	17,080.00
Dosimeters	284625.6
Sterilization indicators	644722.3
High Dose ceric-Cerous Dosimeters	714222.2
Alanine reference dosimeter	296908.9
Chemicals and lab Items	46,935.36
Cylinder Repair Seal Kits Laboratory Consumable SLGC	7,408.00
2021/1796#Puchasing of Polythene bags SLGC	61,800.00
Total Amount	<u>2,161,504.36</u>
Laboratory Consumables - NCNDT	
Safety helmets	41,850.00
Chemical	1844778
Industrial Radiographic films NDT	199,500.00
Mild steel seam less pipe	69,120.00
cotton waste & turpentine	2,895.00
Essential Consumables to Conduct Welder Qualification tests	31,270.09
Industrial X - Ray Films 50HD	307850
battery for fiber scope	1,900.00
Cotton Waste	21,250.00
Washing Overall at NCNDT	5,040.00
Replace the battery pack to UT Flaw Detection-NCNDT	8,700.00
Total Amount	<u>2,534,153.09</u>

SRI LANKA ATOMIC ENERGY BOARD

Performance Report – for the year 2021

Introduction to SLAEB

The Atomic Energy Authority (AEA) which was established by Atomic Energy Authority Act No. 19 of 1969 has been repealed by the Sri Lanka Atomic Energy Act No. 40 of 2014 and established new two institutions namely Sri Lanka Atomic Energy Board (SLAEB) and Sri Lanka Atomic Energy Regulatory Council (SLAERC). The new Act was published as a supplementary to the part ii of Gazette of the Democratic Socialist Republic of Sri Lanka on 04th November 2014 for the promotion and encouragement of the use of Nuclear Science and Technology for national development purposes. This established institution; SLAEB is Government's premier Nuclear Science and Technology Organization which is operated under the State Ministry of Solar Power, Wind & Hydro Power Generation Projects Development. The mandate of the SLAEB flows from the powers vested by the Atomic Energy Act No. 40 of 2014 as mentioned above.

The Act provides for the establishment of the SLAEB for the promotion and encouragement of the use of Nuclear Science and Technology for national development purposes. SLAEB promotes and encourages peaceful applications of nuclear technology through related services and R & D work and provides radiation protection services to meet regulatory requirements while ensuring safety, security and quality.

The SLAEB has been fulfilling its functions in order to accomplish its objectives while gradually acquiring the distinctive technical competence required. It carries out qualitative dedicated work in advancing cooperation in the technical areas, facilitating coordination of technical assistance in addition to performing other mandated tasks.

Vision Statement

Sustainable Development of the Nation through Nuclear Science and Technology

Mission Statement

Promote and encourage peaceful applications of nuclear technology and utilize its benefits for socio- economic development of the country while ensuring safety, security and quality

and

Provide radiation protection services to facilitate protection of workers, public and environment from exposure to unwarranted ionizing radiation

Main Objectives of SLAEB

Promote and encourage the peaceful application of nuclear technology and provide services using such technology

1. Conduct research on nuclear science and on developing peaceful application of nuclear technology for the purpose of achieving national objectives.
2. Promote and support innovation to ensure safety and security systems and quality in the peaceful uses of technology
3. Provide radiation protection services to meet regulatory requirements relating to nuclear application

4. Engage in activities involving ionizing radiation and complimentary techniques for commercial or other purposes

The main Functions of the SLAEB as in Sri Lanka Atomic Energy Act No. 40 of 2014 are

- Utilize radioactive materials and ionizing radiation whether along with complementary techniques or otherwise, for medical, environmental, agricultural, industrial and other peaceful purposes and for scientific and technological advancement as may be required for national development;
- Carry out research relating to the application of ionizing radiation, whether along with complementary techniques or otherwise;
- Ensure that adequate facilities and arrangements are made available for the appropriate training of the staff of the Board and of the officers of any other relevant institutions;
- Provide on request and where it considers it appropriate, to any relevant government institution or any non-governmental institution whether national or international, and to the general public, information relating to the utilization of nuclear technology or other radioactive materials, where available;
- Promote the establishment of professional organizations and societies to assist in the application of ionizing radiation, whether along with complementary methods or otherwise and provide where available any connected services;
- Construct Operate Research Centres, Laboratories and pilot plants in the field of nuclear technology, radiological applications and other related areas;
- Build and operate installations or facilities for the production and distribution of radioisotopes and for the management and disposal of radioactive wastes;
- Assist in the sustainable development of the peaceful application of nuclear technology;
- Explore the availability of radioactive mineral resources within Sri Lanka;
- Establish, maintain and develop scientific and technical cooperation with such local or international institutions or organizations as the Board deems conducive, for the attainment of its objectives;
- Enter into commercial and other ventures involving ionizing radiation or other complementary techniques;
- Furnish the Minister with information relating to the performance and discharge of its duties and functions; and
- Perform and discharge such other duties and functions as in the opinion of the Board, are necessary in achieving the objectives of the Board;

Overview of the Current Operations Carried out by SLAEB

The SLAEB over the past four decades of its existence has gradually but steadily position in its multi-faceted national level roles by understanding its national responsibilities assigned by



the Act therein both as the solitary national level implementing and promotion agency of the peaceful use of nuclear science and technology. The main job responsibilities carried out by the SLAEB are listed as follows;

1. Radiation Protection, Safety and Nuclear Security Program

- Nuclear Analytical Services and Radiation Measuring Capabilities
- Nuclear Technology in Water Management, Dam Safety and Climate Studies
- Nuclear Applications in Food and Agriculture
- Radiation Processing Technology in Material Development
- Nuclear Technology in Environmental Assessments
- International Cooperation in Development of Nuclear Technology
- Nuclear Knowledge Management and Nuclear Power Program
- Intangible Services of the SLAEB

2. Gamma Irradiation Services by Sri Lanka Gamma Centre at Biyagama

Providing irradiation services for sterilization of medical products - provides the required surgical gloves for all the Government hospitals in Sri Lanka which has led to save considerable amount of foreign exchange which would have been incurred for the importation of sterilized gloves. This has plan to expand in to other areas as well in the near future.

3. Non-Destructive Testing Services for Industry by NCNDT at Kelaniya

This Centre was established to provide training, certification and inspection services on Non-Destructive Testing and related techniques within the country to the international level standards

Review of Financial Performance - 2021

During the year under review of 2021, due to Covid 19 global pandemic situation and subsequent economic downturn of the Country, many operational areas of the SLAEB was badly affected. Travel restrictions and limited number of staff reported to work and closure of the office several times caused these issues. But even under this distress conditions, SLAEB has been able to record a generated income of Rs.164.7Mn in 2021 compared with the recorded generated income of Rs.131.7Mn in 2020, this is an increase of generated income of Rs.33Mn or 25% increase.

The recorded Total Revenue for the year is Rs.294.6Mn for the year 2021 and comparison to Rs.316.3Mn recorded in 2020, this is a reduction of Rs.21.7Mn. Despite this reduction, the Generated Income for the year has increased to Rs.164.7Mn, an increase of 25% compared to Rs.131.8Mn in 2020. The Other Revenue has also increased by Rs.1.5Mn or 14% to Rs.12Mn in 2021 compared to Rs.10.44Mn in 2020. During the year the SLAEB's dependency on the Government Treasury for recurrent grant has declined by Rs.61Mn or 69% compared to Rs.88Mn in 2020. For the year 2021, the SLAEB has taken only Rs.27Mn as recurrent grant from the Government Treasury and this is considered as a major achievement towards its Corporate Objective of reaching self-sustainability by 2023.

Total expenditure of the year 2021 has increased only by Rs.5Mn or 1.6% to Rs.317.4Mn compared with the Rs.312.4Mn in 2020. This is also a major achievement, when Total Generated Revenue increased by 25%, the Total Operating Expenditure increased only by 1% in the year 2021. Further during the year 2021, it was able to reduce the Wages, Salaries and Employee Benefits expenditure by Rs.7.5Mn or 5% to Rs.145.4Mn compared to Rs.152.9Mn in 2020. The Supplies and Consumables used has also reduced by Rs.1Mn to Rs.30.8Mn in 2021 compared to Rs.31.8Mn in 2020. But the Other Recurrent expenditure has increased by Rs.9 Mn to Rs.60.3Mn in 2021 from Rs.51.3Mn in 2020 or an 17.5% increase is the major contributing factor for this increase. The Welfare services expenditure has increased by Rs.2.1Mn and this is due to manage Covid 19 pandemic situation and the Printing and Publication cost increased by Rs.1.1Mn, while SLGC Operating expenses has increased by Rs.2.3Mn, NCNDT Operating expenses has declined by Rs.0.9Mn.

For the year 2021, the approved Recurrent Grant was Rs.54Mn, but the SLAEB strictly controlled its expenses and managed to obtain only Rs.27Mn or 50% of the approved budget. As a result of this decline in Government Grant, during the year the SLAEB has recorded a deficit of Rs.21.69 Mn. Compared with the recorded surplus of Rs.3.9 Mn in 2020, this is a deficit of Rs.25.6Mn.

As at 31st December 2021, the total Assets of the SLAEB has increased by Rs.867Mn to Rs.3,017Mn compared with the previous year amount of Rs. 2,150Mn. During the year, the value of the land and building of main head office building was taken to books and this is the main cause of the increase of the Financial Position.

Given below are the performances of each division of SLAEB during the year 2021



Gamma Irradiation Service (Sri Lanka Gamma Centre - SLGC)

Sri Lanka Gamma Centre (SLGC) which is the only government owned multipurpose gamma irradiation facility in Sri Lanka operating since 2014 in Biyagama Export Processing Zone, as one of the too national centres comes under the arm of Sri Lanka Atomic Energy Board. SLGC focuses on providing maximum benefits to the country, by encouraging and providing irradiation services to industries, entrepreneurs, research institutes etc. in all the applicable aspects of gamma radiation. Mainly gamma irradiation service has utilized for sterilization of medical products, sterilization of packaging materials, microbial disinfection and insect control in food and medicinal herbs, phyto-sanitary treatments, mutation breeding, material modification and sterile insect technique for disease control. The facility is operating for 24 hours daily with experienced and dedicated operational and laboratory staff to utilize its maximum benefits to the country.

SLGC is a continuous, carrier type gamma irradiation facility which was loaded with initial activity of 250kCi of Cobalt-60 source in 2013. The starting activity of Cobalt-60 as at 1st January 2021 was 170 kCi with the first source upgrade done in 2017. For irradiation purpose SLGC has Commercial conveyor & Auxiliary conveyor (sample conveyor) which can operate independent with each other. Commercial conveyor has mainly dedicated for customers, who initially conduct product validation studies and engaging in continuous supply. Auxiliary conveyor, which is a remarkable feature of the irradiator, is facilitating irradiation of samples for Research & Development purpose of Researchers from universities & research institutes and industrialists from various industries having non-continuous or small volumes. Further sample conveyor is being excessively utilized for the in-house calibration activities & inter-comparison studies.

SLGC is providing irradiation services to sterilize surgical gloves required for all the Government hospitals in Sri Lanka having a big impact on Country's economy by saving considerable amount of foreign exchange. Also, the SLGC has supported uplifting of local manufacturing industries. As the irradiation service is readily available, several entrepreneurs have initiated manufacturing facilities locally while some are irradiating imported finished products at the SLGC. In addition to that, some companies are in the process of initiating manufacturing facilities for syringes and gauze, making opportunity for man power utilization & capacity building within the country.

SLGC is equipped with three main laboratories; Dosimetry Laboratory, Food Technology Laboratory & Microbiology Laboratory. Dosimetry Laboratory serves as the quality assurance laboratory which assures the dose delivered to the products which are being irradiated in the facility. Microbiology Laboratory and Food Technology Laboratory provide initial validation services, microbiology testing services and other testing services while all the laboratories provide research facilities.

Assurance of safety and security and compliance with international guidelines is crucial for SLGC, as a commercial irradiator, in order to assure the safety of the work force, gamma source and the environment while providing required security to the source. Regular inspections by Sri Lanka Atomic Energy Regulatory Council (SLAERC) ensures the effectiveness of safety measures which has been successfully embedded with periodic safety checks, medical surveillance programmes, personal dose monitoring programmes etc. SLGC participates in other radiation protection programmes that are conducted internationally or locally to uplift its safety and security culture. SLGC, as a service provider enriches its quality of the service by adhering to international standards and implementing relevant quality management systems; ISO 9001 and ISO 13485 (*Medical devices - Quality management systems - Requirements for regulatory purposes*)

SLGC provides awareness on gamma irradiation technology and applicable services through periodic customer discussions, awareness programmes etc... Knowledge dissemination on applicability of gamma irradiation in different industries achieves through researches conduct in collaboration with universities and research institutes.

Due to increasing demand for irradiation from the existing customers, SLGC upgraded its source strength by another 250kCi in April / May 2021. The total source activity as at 2021.04.15 was 413.5kCi. Previous source upgrading in 2013 and 2017 with dose mapping activities were carried out by the experts from Board of Radiation and Isotope Technology (BRIT), India. As the Indian experts refused to visit the SLGC during the COVID-19 pandemic, the SLGC staff completed the source upgrading successfully by using their previous experience of working with Indian experts two times. The involvement of local staff for the source upgrading has saved Rs 11 Mn to the country.

Through the commercial scale operations, the SLGC was able to earn Rs.59Mn during the year 2021 including an irradiation by auxiliary conveyor (sample conveyor) generated income of Rs.0.33Mn.

Non-Destructive Testing Services

National Centre for Non-Destructive Testing (NCNDT) was established by the SLAEB as a separate Centre at No. 977/18, Kandy Road, Kelaniya in 2014 with moderately equipped laboratories with a view to expand the Non-Destructive Testing services to the nation.

During the year under review in 2021, total 205 NDT inspection services were provided with a view of sustained reduction of defects in products, civil constructions, etc. and hence reduction in emergency shutdown in industrial components / assemblies / power plants etc.

Under the training programs conducted by the NCNDT of professional qualifications, 284 NDT personnel were trained / qualified / certified with a view to make a sufficient number of NDT knowledgeable / qualified and certified personnel in the industrial sector. This will enable to carryout NDT related decision making and also to have increased level of job opportunities both local and overseas for these qualified people.

During the year 2021 total generated Revenue from the NCNDT is Rs.26.4Mn. Generated income from NDT Inspection services have increased by Rs.0.7Mn to Rs.13.6Mn. compared to Rs.12.9Mn in 2020. Total Operating expenditure of the year 2021 has declined by Rs.0.5Mn to Rs.12.8Mn compared with Rs.13.3Mn in the year 2020.

Life Science Division - Nuclear Analytical Services

Life Sciences Division (LSD) is responsible for providing efficient and effective analytical services for regulatory requirements, customer requests and R & D activities based on Nuclear Analytical Technique in compliance with international standard.

4401 samples of imported milk powder and 269 samples of exported tea and other products were tested for radioactivity measurements using Gamma spectrometry. 174 samples were tested for detailed radio activity measurements. 279 of various sample matrices of soil, mineral archaeological samples, gems, alloy etc., were analysed for multi elemental composition using X-Ray Fluorescence spectrometry, 39 waste water samples were tested for gross Alpha and Beta measurements and 130 samples for stable isotopes were analysed using Isotope Ratio Mass Spectrometry technique during the year 2021.



Radio activity monitoring program was conducted for imported and locally produced milk powder in the local market. 35 imported milk powder samples and 11 locally produced milk powder samples were tested randomly under the programme.

Gamma Spectrometry Laboratory maintained Quality Management System (QMS) as per the ISO IEC 17025:2005 International Accreditation for testing laboratory, since 2006. QMS was upgraded including all the documents and processes as per new version of ISO IEC 17025:2017 in February 2021.

Rs. 66.5 Mn. of income was generated by analysing and report issuing for a total number of 5292 samples by the LDS laboratory nuclear analytical testing services.

In addition to providing nuclear analytical testing service, the LSD has engaged in various nationally important projects on the application of Nuclear Science & Technology for Life Science Applications and Food and Agriculture.

- I. Pilot project on Geochemical Approach to Verification of the Origin of 'Ceylon Tea' (collaborative institutes – Tea Research Institute and Sri Lanka Tea Board)
- II. Enhancing Wetland Management and Sustainable Conservation Planning -RAS7037 (Collaborative project with Wayamba University)
- III. Development of an organic food authentication technique and determination of fruit juice adulteration using stable isotopes
- IV. Assessing and Improving Soil and Water Quality to Minimize Land Degradation and Enhance Crop Productivity Using Nuclear Techniques (collaborative research with Natural Resources Management Centre, Department of Agriculture)
- V. IAEA CRP 21090, D5.20.40 -Development of Rapid Screening Methods to Assess the Authenticity, Safety and Quality of Imported and Locally Produced Milk Powder in Sri Lanka.

Radiation Protection and Technical Services Division (RPTSD)

Provision of quality service to protect general public, environment and radiation workers is the main objective of this division. This division provides radiation protection services to meet regulatory requirements and technical services to ensure the safety and security of the nuclear technology in the country. Even during the COVID-19 pandemic, the division has continuously operated to provide necessary services without any delay or interruption.

Nuclear Instrumentation Section (NIS) of the RPTSD has designed and developed commercial level low-cost radiation measuring equipment. During the year 2021, 8 units of GM counting system were upgraded to newer models. Also, a portable, low-cost personal radiation monitor for use of nuclear security purposes was designed. The maintenance of national nuclear early warning system was successfully done by replacing eight (08) repaired radiation monitoring stations. This section provided necessary assisting services for repair and maintenance of nuclear instruments in order to derive benefits of nuclear technology to Sri Lankan community. The number of services carried out during the year 2021 was 29.

The island wide services in Dosimetry Calibrations & Personal Monitoring were provided with ISO 17025 accredited laboratories. In 2021, the laboratories have upgraded their accreditations to be compatible with the latest international standards of ISO/IEC 17025:2017. During the year 2021, calibration services were provided for 108 radiation

monitoring equipment. In addition, the personal monitoring services were provided to protect more than 2,235 workers free of charge or with a minimum charge. The environmental radioactivity monitoring services for Gamma and Radon have been conducted and services of workplace monitoring is being continued successfully. As a special consultation service, the division has also developed the "National Guideline of Radiation Safety for Health Sector" and the "Comprehensive Terms of Reference (ToR) for Radiation Protection Officers" on the invitation of the National Cancer Control Program (NCCP) and the World Health Organization (WHO). Three-day training program on Basic Radiation Protection with hands-on experience on protection components was conducted to improve the technical skills and capabilities on radiation protection of the radiation workers.

Ensuring the safety of the citizens, the division also provides expert services for sustaining the nuclear security regime in the country. A significant contribution has been provided to strengthen up the nuclear security detection architecture identified under the Integrated Nuclear Security Plan (INSSP) of the country. Especially in ports of entry (Port of Colombo, Bandaranaike International Airport) and major public events through the dissemination of knowledge and providing training and consultation services to Sri Lanka Customs, Airport Aviation Security, Police and Tri-forces. The division also maintains the National Nuclear Disaster Early Warning System and the Central Disused Radiation Source Storage Facility.

The Division is dedicated to provide island-wide, non-profit, research-oriented services, but the Division has generated Rs. 21.7 Mn. income during the year 2021 which is an 46% of improvement in the income compared to the previous year. Also, the division has provided free-of-charge services of around Rs. 2.0 Mn. during the year.

Industrial Applications Division

Industrial Applications Division (IAD) is currently engaging in research and development activities as well as related services in connection with scientific disciplines named isotope hydrology, radiation processing and isotope ecology. In addition to that school education programme is coordinated by the IAD to make teaches and school children aware on nuclear technology. There are two sub-Sections in IAD; Isotope Hydrology Section and Radiation Processing Section. Isotope Ecology and School Education programme are newly added to the IAD and they will be developed up to sub sections in the Division in future

Under the above scientific disciplines, projects related to environmental assessment and protection, particularly related to water issues are conducted. Also, material development for industry, health, agriculture and archeology is carried out using radiation technology. Meanwhile, IAD provides related consultancies and analytical services for the stakeholder institutes and other respective research institutions and organizations. Mostly the research projects are conducted in IAD in collaboration with national and international institutes/organizations to fulfill the national needs.

In the year 2021, COVID-19 pandemic situation was badly affected the research activities in the Isotope Hydrology Section. Field sampling was completed for water resources management project at Malwathu Oya and lower Mahaweli basins. River water samples (Kelani) for Global Network of Isotopes in Rivers; GNIR / rain water samples (Colombo,



Katugastota and Jaffna) for Global Network of Isotopes in Rain, GNIP were collected in monthly basis. Water samples collected in all the above projects could partially be analyzed at Isotope Hydrology Laboratory due to the disturbance occurred in the pandemic situation for continuous operation of the analyzers. During the “work from home” period, most of the document work related to accreditation of major ion analysis using Ion Chromatography were completed. Technical failures and maintenance issues of the sample analyzers were occurred but the service and repair of such instruments were delayed significantly as import/export and travel restrictions were imposed in the country. A new project was started on “establishment of database of water sources of bottled water industry”. For this study, 17 Commercial scale bottle water suppliers were made aware and agreed to send water samples monthly from the sources.

Developing and upscaling of radiation grafted materials for water treatments, application of radiation techniques for conservation of paper and organic artifacts, reutilizing and recycling polymeric waste through radiation modification and development of oil / chemical adsorbent using gamma radiation induced grafting technique are the main research projects conducted by the Radiation Processing Section in 2021, aiming development and quality enhancement of different materials.

Design of the project document submitted to the IAEA’s Regional Cooperative Agreement Programme for a new regional project on “Increase of Crop Productivity under Drought Conditions by Using Isotope Techniques to Optimize Water Usage” under the isotope ecology programme of IAD was carryout in 2021. The project was approved by the IAEA Board of Governors to be implemented from the year 2022 subjected to the availability of extra-budgetary supplements. This is the first-ever IAEA RCA project in which SLAEB is functioning as the lead country. Several modifications to the available sample preparation line for plant water extraction was done with the help of the glass blowing unit of Kelaniya University. Preliminary steps were taken to procure a cryogenic vacuum distillation setup. A smart greenhouse system was established in the NCNDT premises during the year 2021.

Two international webinars were conducted incorporation with the International Atomic Energy Agency for teachers and school children from the Asia and the Pacific region under the School Education programme in 2020. The first webinar was conducted by Prof. S.R.D. Rosa, Chairman of SLAEB on the topic of “Basics of Nuclear Science – Radiation, radioactivity and nuclear reactions”. The second webinar was conducted by Dr Viraj Edirisinghe, Director of IAD on the topic of “Isotope Techniques for Water's Secrets: Basic Principles and Applications of Isotope Hydrology”. Collaboration was made with E-Thaksalawa of the Ministry of Education. The Sinhala E-book on Nuclear Science & Technology for secondary school students was developed on the E-Thaksalawa platform and released for student enrollment. Convinced the policymakers who are responsible for the upcoming secondary curriculum reformation of the National Institute of Education. It was decided to develop an elective module on Nuclear Science & Technology for grade 11.

International Cooperation Division

International Cooperation Division of Sri Lanka Atomic Energy Board (SLAEB) functions as the National Liaison Office to the International Atomic Energy Agency (IAEA) which is widely known as the world's "Atoms for Peace and Development", an organization within the United Nations family.

International Cooperation Division coordinates activities with IAEA in order to obtain technical assistance under its Technical Cooperation (TC) Programme. The IAEA delivers its technical assistance to the Member States under various projects which are in following nature. This Division also coordinates activities with other international organizations such as Regional Cooperative Agreement regional Office (RCARO) in South Korea, Institutes functioning under Ministry of Education, Culture, Sports, Science and Technology (MEXT) in Japan, International Center for Theoretical Physics (ICTP) etc. to obtain technical assistance to develop nuclear technology in the Country. Coordination of bilateral discussions with IAEA Member States (MS) in order to see the possibility of obtaining technical support to Sri Lanka and coordination of Nuclear Knowledge Management (NKM) activities are other important functions rendered by this division.

Human Recourses Development (HRD) is an essential and important element of any activities and Sri Lanka was able to train 05 personnel through overseas programmes and 98 personnel through virtual events organised under Technical Cooperation Programme of IAEA. Many Sri Lankan Scientists were able to attend various IAEA meetings organised as virtual events. Many of training, workshop, meeting etc. were cancelled and no any expert mission or scientific visits were conducted due to the COVID19 pandemic situation. However, one national training course on NDT was conducted virtually with the expert assistance of IAEA considering the urgent necessity. Many of activities planned were postponed due to this pandemic. Even though training opportunities were also obtained under Ministry of Education, Culture, Sports, Science and Technology (MEXT) programme of IAEA Japan and Regional Cooperation Agreement Regional Office (RCARO) in Korea etc., some of them were cancelled and postponed considering the global pandemic of COVID19.

Sri Lanka was able to implement for 06 national projects in the fields where nuclear technology is utilised during 2021 in order to obtain technical assistance for the enhancement of nuclear technology in the country.

Sri Lanka was also able to get approved a six number of National projects to be implemented in 2022/23 TC cycle and they are as follows.

No	Project Title	Counterpart Institute
1	SRL1010 - "Increasing the Application of Advanced Non-Destructive Testing Methods"	National Center for Non-Destructive Testing of Sri Lanka Atomic Energy Board
2	SRL2011 - "Developing National Infrastructure for a Nuclear Power Programme"	Sri Lanka Atomic Energy Board (SLAEB)
3	SRL5051 - "Introducing Climatic Smart Agricultural Practices to Mitigate Greenhouse Gas Emission"	Faculty of Agriculture, Wayamba University of Sri Lanka
4	SRL6038 - "Establishing a Medical Cyclotron Facility to Produce Positron Emission Tomography Radiopharmaceuticals - Phase II"	Sri Lanka Atomic Energy Board (SLAEB)
5	SRL9012 - "Supporting Prerequisites for Quality Cancer Diagnosis and Treatment"	National Cancer Control Programme



		Sri Lanka Atomic Energy Board
6	SRL9013 - "Strengthening the National Capabilities for Responding to Nuclear or Radiological Emergencies"	Sri Lanka Atomic Energy Regulatory Council (AERC)

Total value of the technical assistance approved for next TC Cycle 2022/23 is Euro 1, 369, 894/= and such assistance is received by the country in the forms of fellowships, Scientific Visits, expert mission and equipment.

Apart from the planning, implantation and Coordination of above national projects, the division made activities to obtain technical assistance toward the country through other regional and inter-regional projects of IAEA.

The division also coordinated with IAEA in order to procure some scientific equipment through IAEA procurement process which cannot be locally purchased.

Activities related to the Nuclear Power Planning and Nuclear Knowledge Management (NKM) are also carried out by this division.

The Division was also able to coordinated with IAEA to obtains technical assistance to mitigate the Environmental pollution due to fire of X-Press Pearl Ship near Colombo Harbour, Sri Lanka. An IAEA expert was to conduct an expert mission here in Sri Lanka however it was postponed due to re-outbreak of COVID and it will be rescheduled once the current condition become normal. Required equipment for laboratories of Marine Environmental Protection Authority (MEPA) and National Aquatic Resources Research and Development Agency (NARA)

Prof. S. R. D. Rosa
B.Sc (Physics), Colombo, M.Sc (Phy), Ph.D (Ino. P. USA)
Chairman
Sri Lanka Atomic Energy Board

Dileepa Asarapernuma
Director - Finance
Sri Lanka Atomic Energy Board



SRI LANKA ATOMIC ENERGY BOARD
STATEMENT OF FINANCIAL POSITION
AS AT DECEMBER 31-2021

(All amounts are in Sri Lankan Rupees)

	Notes	2021		2020	
ASSETS					
Current Assets					
Cash and Cash equivalent	3	46,827,966		135,268,410	
Receivables	4	32,328,829		30,441,816	
Inventories	5	16,977,181		18,885,647	
Prepayments	6	7,283,562		6,899,824	
Other Current Assets	7	196,130,663	299,548,201	198,708,071	390,203,768
Non - Current Assets					
Work In Progress	8	5,195,284		4,863,143	
Property, Plant & Equipment	9	976,794,671		828,820,106	
Intangible Assets	9.1	4,112,292		3,565,949	
Land & Building	9.2.1	1,731,913,195		922,424,970	
Unusable Items	10	31,850	2,718,047,292	31,850	1,759,706,018
Total Assets			3,017,595,493		2,149,909,786
LIABILITIES					
Current Liabilities					
Payable	11	96,379,054	96,379,054	86,825,842	86,825,842
Non Current Liabilities					
Retirement Benefit Obligations	12	40,899,187		38,836,936	
Decommission Charge for Co-60	13	5,683,833	46,583,020	5,413,174	44,250,111
Total Liabilities			142,962,075		131,075,953
Total Net Assets			<u>2,874,633,418</u>		<u>2,018,833,833</u>
NET ASSETS /EQUITY					
Capital & Reserves					
Government Grant - Capital	14	2,768,645,448		1,900,845,119	
Revaluation Reserve	14 A	34,066,076			
Accumulated Fund	15	167,419,088		190,774,857	
Deficit	16	(95,497,195)		(72,786,143)	2,018,833,833
Total Net Assets/Equity		2,874,633,418	<u>2,874,633,418</u>		<u>2,018,833,833</u>

The Accounting Policies and notes on pages 01 to 40 form an integral part of these Financial Statements. We the undersigned, being the Director General and the Head of Finance of Sri Lanka Atomic Energy Board certify jointly that these Financial Statements are in compliance with the requirements of the Finance Act No 38 of 1971.

Director- Finance

Dileepa Assarapperuma

Director - Finance

T M R Tennakoon

Director General

Director General

The Board of Directors is responsible for the preparation and presentation of these Financial Statements. The Financial Statements for the year ended 31st December 2021 (including Comparatives) were approved and signed for and on behalf of the Board.

Chairman

Prof. S. R. D. Rosa

B. Sc (Physics, Colombo), M. Sc (Phy), Ph.D (Nuc. Phy, USA)

Chairman

Sri Lanka Atomic Energy Board

Board Member

**SRI LANKA ATOMIC ENERGY BOARD
STATEMENT OF FINANCIAL PERFORMANCE
FOR THE PERIOD ENDED 31-DECEMBER -2021**

(All amounts are in Sri Lankan Rupees)

	Notes	2021	2020
Revenue	17	117,967,357	174,139,707
Generated Income	18	164,703,025	131,754,231
Other Revenue	19	11,978,214	10,444,095
Total Revenue		294,648,596	316,338,033
Wages, Salaries and Employee Benefits	20	(145,764,751)	(152,979,068)
Supplies & Consumable Used	21	(30,801,732)	(31,834,932)
Depreciation & Amortization Expenditure	22	(72,254,621)	(70,222,274)
Maintenance of property, plant & equipment	23	(8,158,507)	(6,055,753)
Other Recurrent Expenditure	24	(60,367,659)	(51,323,375)
Finance cost	25	(44,883)	(22,934)
Total Expenditure		(317,392,153)	(312,438,336)
Surplus / Deficit for the year		(22,743,557)	3,899,697

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Director- Finance

Dileepa Assarapperuma

Director - Finance

Sri Lanka Atomic Energy Board

Director General

M R Tennakoon

Director General
Sri Lanka Atomic Energy Board

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Prof. S. R. D. Rosa

B. Sc (Physics, Colombo), M. Sc (Phy), Ph.D (Nuc. Phy, USA)

Chairman

Sri Lanka Atomic Energy Board

Board Member

Prof. S. R. D. Rosa
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Chairman
Sri Lanka Atomic Energy Board

SRI LANKA ATOMIC ENERGY BOARD
STATEMENT OF CHANGES IN NET ASSETS/EQUITY
FOR THE YEAR ENDED 31-DECEMBER -2021
(All amounts are in Sri Lankan Rupees)

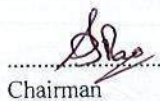
	Capital Grant	Revaluation Reserve	Accumulated Fund	Accumulated Surplus/Deficit	Total
Balance at 01-01-2020	1,794,795,980		179,350,567	(76,674,040)	1,897,472,507
Received for the Year	162,975,000		34,211,940	(11,800)	197,175,140
Adjustments Made	(56,925,863)		(22,787,649)		(79,713,512)
Surplus/ Deficit for the Year	-----		-----	3,899,697	3,899,697
Balance at 31-12-2020	1,900,845,117		190,774,858	(72,786,143)	2,018,833,832
Received for the Year	924,773,724		-	-	924,773,724
Adjustments Made	(56,973,393)	34,066,076	(23,355,770)	32,506	(46,230,581)
Surplus/ Deficit for the Year	-----		-----	(22,743,557)	(22,743,557)
Balance at 31- December 2021	2,768,645,448	34,066,076	167,419,088	(95,497,194)	2,874,633,418

The Accounting Policies and notes on pages 01 to 40 form an integral part of these Financial Statements. We the undersigned, being the Director General and the Head of Finance of Sri Lanka Atomic Energy Board certify jointly that these Financial Statements are in compliance with the requirements of the Finance Act No 38 of 1971.


Dileepa Assarapperuma
 Director - Finance
 Sri Lanka Atomic Energy Board

T M R Tennakoon
 Director General
 Sri Lanka Atomic Energy Board

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 Chairman


 Board Member

Prof. S. R. D. Rosa
 B. Sc (Physics, Colombo), M. Sc (Phy), Ph.D (Nuc. Phy, USA)
 Chairman
 Sri Lanka Atomic Energy Board

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Prof. S. R. D. Rosa
 B. Sc (Physics, Colombo), M. Sc (Phy), Ph.D (Nuc. Phy, USA)
 Chairman
 Sri Lanka Atomic Energy Board

SRI LANKA ATOMIC ENERGY BOARD

Cash Flow statement for the Period Ended 31st December 2021

(All amounts are in Sri Lankan Rupees)

	2021		2020	
CASH FLOW FROM OPERATING ACTIVITIES				
<u>Receipts</u>				
Sales of goods and services	172,553,346		138,591,783	
Receipt of Recurrent Grant	27,000,000		88,000,000	
Receipts of Loan Interest	6,659		395,028	
Receipts of Savings Interest			-	
Other	6,766,460	206,326,465	9,807,917	236,794,728
<u>Payments</u>				
Cash paid to Suppliers	(87,623,678)		(70,268,857)	
Cash paid to employees	(144,227,700)		(143,929,343)	
Other Payments	(10,059,193)	(241,910,571)	(16,397,097)	(230,595,297)
Net Cash Flow from Operating Activities		(35,584,106)		6,199,431
CASH FLOW FROM INVESTING ACTIVITIES				
<u>Payments</u>				
Acquisition of Plant, Machinery & Equipment	(150,560,104)		(51,076,271)	
Transferred to Current Account-People's Bank		(150,560,104)		(51,076,271)
Net Cash Flow from Investing Activities		(150,560,104)		(51,076,271)
CASH FLOW FROM FINANCIAL ACTIVITIES				
<u>Receipts</u>				
Receipt of Capital Grant	96,569,000		162,975,000	
Recovery of Loans	5,881,395	102,450,395	4,073,990	167,048,990
<u>Payments</u>				
Payment of Loan	(4,746,630)		(6,092,104)	
Payment of Balance amount to Treasury	-	(4,746,630)	-	(6,092,104)
Net Cash Flow from Financial Activities		97,703,765		160,956,886
Net Increase/Decrease in Cash & Cash equivalent		(88,440,445)		116,080,046
Cash & Cash equivalent at the beginning of the year		135,268,410		19,188,365
Cash at Bank -Current A/C		135,201,447		19,183,377
Cash at Bank -Savings A/C		-		-
Cash in hand		-		-
Stamp Stock		66,963		4,988
Cash & Cash equivalent at the end of the year		46,827,966		135,268,410
Cash at Bank -Current A/C		46,776,013		135,201,447
Cash at Bank -Savings A/C		-		-
Cash in hand		-		-
Stamp Stock		51,953		66,963

The Accounting Policies and notes on pages 01 to 40 form an integral part of these Financial Statements. We the undersigned, being the Director General and the Head of Finance of Sri Lanka Atomic Energy Board certify jointly that these Financial Statements are in compliance with the requirements of the Finance Act No 38 of 1971.

Director- Finance

Dileepa Assarapperuma
Director - Finance

Director General

M R Tennakoon

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Chairman

Prof. S. R. D. Rosa
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Chairman
Sri Lanka Atomic Energy Board

Board Member

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SRI LANKA ATOMIC ENERGY BOARD

NOTES TO THE FINANCIAL STATEMENTS

Significant Accounting Policies

1. GENERAL ACCOUNTING POLICIES

1.1 REPORTING ENTITY

The Atomic Energy Authority (AEA) which was established by Atomic Energy Authority Act No.19 of 1969 has been repealed by the Sri Lanka Atomic Energy Act No.40 of 2014 and established a new institution as Sri Lanka Atomic Energy Board (SLAEB) with effect from 1st January 2015. The new Act was published as a supplementary to the part ii of Gazette of the Democratic Socialist Republic of Sri Lanka on 04th November 2014 for the promotion and encouragement of the use of nuclear science and technology for national development purposes.

As per the Part IV, chapter XIV sub no. 90 of the Act No. 40 of 2014 all the staff belonged to AEA, all movable and immovable property, all contracts and agreements entered into, all accumulate funds and grants, all permits and memorandum of understandings, all the court cases pending and proceeding, all judgments and orders made favourable or against, all interests, rights, assets, obligations, debts and liabilities which relevant to Sri Lanka Atomic Energy Board have been transferred with effect from 01-01-2015 from Atomic Energy Authority to Sri Lanka Atomic Energy Board.

1.2 BASIS OF PREPARATION

(a) Statement of Compliance

The Financial statements comprise the Statement of Financial Position, Statement of Financial Performance, and Statement of Changes in Net Assets/Equity, Cash Flow Statement, Statement of comparison figures of budget and the actual amounts and Notes to the Financial Statements.

These statements have been prepared in accordance with Sri Lanka Public Sector Accounting Standards (SLPSAS) and adopted suitable policies for the items which are not covered by the SLPSAS. The financial statements have been prepared on a going concern basis and accounting policies have been applied consistently throughout the period and, prepared considering the accrual basis of accounting except for cash flow. Set out recognition, measurement and presentation and disclosure requirement dealing with transaction and events in general purpose of financial statements.

(b) Basis of Measurement

The Financial Statements have been prepared on historical basis except where appropriate disclosures are made with regard to the fair value certified by relevant notes.

(c) Comparative Information

The accounting policies applied by the SLAEB are consistence with those used in the previous year. Previous year figures and phrases have been arranged, whenever necessary, to confirm to the current year's presentation.



(d) Going Concern

When preparing financial statements, management has made assessment of the liability of the constituents of the SLAEB to continue as a going concern, taking into account all available information about the future.

(e) Functional and Presentation Currency

The Financial Statements are presented in Sri Lankan Rupees, which is the functional and presentation currency of the SLAEB. All financial information presented in Sri Lankan Rupees has been given to the nearest thousand, unless stated otherwise.

Information about significant areas of estimates, uncertainty, and critical judgments in applying accounting policies that have the most significant effects on the amounts recognized in the financial statements are included in the notes to the financial statements.

(f) Foreign Currency Transactions

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

(g) Events Occurring after the Statement of Financial Position Date

All material events occurred after the Statement of Financial Position date has been considered and where appropriate adjustments or disclosures have been made in the financial statements.

(h) Taxes

Turnover based taxes include Value Added Tax (VAT), Income Tax and Nation Building Tax are paid to the Department of Inland Revenue (DIR) in compliance with the respective statutes. The estimation of income tax liability includes interpretation of Tax Law. The estimation process by the SLAEB seeking expert advice where appropriate and the payment of the income tax liability is on self-assessment basis.

With effect from 01st January 2020, the increases of threshold limit for VAT registration to Rs.300Mn, VAT and SVAT registration of SLAEB cancelled.

Pay as You Earn (PAYE) tax is deducted from relevant officials from monthly earnings as per the respective circulars and remitted to DIR.

1.3 ASSETS AND BASIS OF THEIR VALUATION

Assets classified as current assets and non-current assets in the Statement of Financial Position. Assets which are expected to be realized in or, consumption in the normal operating cycle within one year from the Financial Position dates are considered as current assets and, assets other than the current assets (non-current assets) are those which the SLAEB intends to hold beyond a period of one year from the date of Statement of Financial Position.

1.3.1 Infrastructure, Property, Plant & Equipment

The Infrastructure, Property, Plant & Equipment are recorded at cost or revaluation less accumulated depreciation and any accumulated impairment in value. 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.

Where items of infrastructure, Property, Plant & Equipment are subsequently revalued, the entire class of such assets is revalued at fair value. When an asset is revalued, any increase in carrying amount is credited directly to a revaluation reserve, except to the extent that it reserves a revaluation decrease of the same asset previously recognized in the statement of financial performance, in which case the increase is recognized in the financial performance statement.

Any revaluation deficit that offsets a previous surplus in the same asset is directly offset against the surplus in the revaluation reserve and any excess recognized as an expense. Upon disposal, any revaluation reserve relating to the asset sold is transferred to retain earnings. Items of infrastructure, Property, Plant & Equipment are de-recognized upon replacement, disposal or when no future economic benefits are expected from its use. Any gain or loss arising on de-recognition of the asset is included in the financial performance statement in the year the asset is de-recognized.

When assets are rehabilitated using the capital funds individual assets are considered for revaluation at the time of rehabilitation is done.

1.3.2 Funding and Depreciation/Amortization

The Government grant related to assets including non-monetary grants at fair value has been shown in the Statement of Financial Position and Statement of Financial Performance as differed income and deducting the grant in arriving at the carrying amount of the asset. In determining the gross carrying amount of asset we have considered, the delivered to site value inclusive of CIF, clearing, transport & other local charges incurred for bringing to the condition at present. Assets are depreciated at the following rates on straight-line method and write-off such amount over the estimated useful economic life of such assets.

The SLAEB applies the following rates of depreciation per annum for its non-current assets.

Item	Expected life time	Annual depreciation rate
Buildings	Over 50 years	2%
Boundary Wall	Over 25 years	4%
Off Equipment, Furniture & Fittings	Over 13.3 years	7.5%
Electronic Equipment	Over 10 years	10%
Computers, Software & Accessories	Over 10 years	10%
Motor Vehicles	Over 10 years	10%
Scientific Equipment	Over 20 years	5%
Library Books	Over 20 years	5%

(a) Differed Income

Differed income is ascertained from the depreciation of assets purchased out of government funds.



(b) Decay and Decommissioning Cost

• Decay Cost

Decay cost of the Cobalt 60 source of the SLGC is calculated using the following formula and it is charged to the Financial Statements annually

$$\frac{\text{Cost of Cobalt 60}}{\text{Quantity}} \times \text{Cobalt 60 decayed per Year.}$$

• Decommissioning Cost

Decommissioning charges to be paid after 10 years, when the used source is returned to the supplier back. The cost of decommissioning charged at the 10th year will be Rs.4,453,432 + 63% which is equal to Rs.7,259,095 as per the agreement. Annual decommissioning amount is calculated based on the discounting factor. It is charged to Financial Statements annually

1.3.3 Inventories - Basis of valuation

Inventoried other than produced inventories are value at the lower of cost and net realizable value after making due provisions for obsolete and slow-moving items.

The cost incurred in bringing inventories to its present location and condition are accounted and determined on the following basis.

• Materials, Consumables & Spares

At actual cost on first –In- First out basis (FIFO)

• Finished Goods

At purchased cost and /or cost of direct material, direct labour and an appropriate proportion of production overheads based on normal operating capacity.

1.3.4 Trade & Other Receivables

Trade and other receivables are stated at the amounts they are estimated to realize, net of provisions for bad & doubtful receivables. Provisions have been made for bad & doubtful debts. SLAEB reviews the status of debtor balances periodically and make a 100% provision for bad debts outstanding over five (5) and written off the debtor balances in the following year with the approval of the Board. However, since in 2020 SLAEB has made a provision for doubtful debtors and written off not allowed as to encourage the debt collection process.

1.3.5 Cash & Cash Equivalents

Cash flow statement has been prepared by using the direct method. Cash & Cash equivalents in the cash flow statement comprise cash at bank, in hand and stamp stock.

1.4 LIABILITIES AND PROVISIONS

All known liabilities as at the date of statement of financial position are included in the financial statements and adequate provisions are made for liabilities which are known to exist, but the amount of which cannot be determined accurately.

Obligations payable on demand or within one year of the date of statement of financial position are treated as current liabilities in the statement of financial position. Liabilities payable after one year from the date of statement of financial position are treated as non-current liabilities in the statement of financial position.

1.4.1 Retirement Benefits to Employees

Defined Benefit Plan

Contribution to EPF & ETF

Obligation for contributions to defined contribution plans are recognized as expenses in the statement of financial performance as incurred.

The Sri Lanka Atomic Energy Board contributes a sum of 15% and 3% of the gross emoluments of employees to Employee Provident Fund (EPF) and to the Employees' Trust Fund (ETF) respectively.

Contribution to Gratuity provision

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 statement of financial position, 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 31st December of each employee.

1.5 TRADE AND OTHER PAYABLE

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

1.5.1 Capital Commitments and Contingent Liabilities

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

1.5.2 Provisions, Contingent Assets & Contingent Liabilities

Provisions are made for all obligations existing as at the financial position date when it is probable that such an obligation as a result of a past event will result in an outflow of resource and a reliable estimate can be made of the quantum of the outflow. All contingent liabilities are disclosed as a note to the financial statement.

1.5.3 Creditors

Trade creditors are recognized at the time of receiving goods to the SLAEB.

1.6 INCOME

1.6.1 Grant and Donations

Grant and Donations are credited to the statement of financial performance 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 statement of financial position and credited to the statement of financial performance over the useful life of the related assets and their remaining lease period as per the internally accepted policy.



1.6.2 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.

1.7 STATEMENT OF FINANCIAL PERFORMANCE

Accounts are prepared in an accrual basis.

1.7.1 Revenue and Expenditure Recognition

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

1.7.1.1 Revenue

Revenue is recognized to the extent that it is probable that the economic benefits will flow to the SLAEB, and the revenue received from operating activities was comprised with net income of Irradiator Service, Radiation Processing services, NDT Inspections & Training, Nuclear Instrumentation & Calibrations, Interest on Loans, Non-Refundable deposits, Sundry income, disposal income, gain on disposal of assets based on accrual concept & excluding VAT.

1.7.1.2 Expenditure

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

1.7.2 Research & Development

For research & development activities mainly, funds are provided by the General Treasury. Costing the research projects direct material & other expenses. These are charged as recurrent expenditure. Income received from outside clients is set off against the expenditure.

Funds are received for Coordinator Research Projects (CRP) and other projects coordinated by IAEA. The unutilized such funds are shown as a liability under the Statement of Financial Position.

2. CORPORATE INFORMATION

Sri Lanka Atomic Energy Board (SLAEB) was established by the Sri Lanka Atomic Energy Act No.40 of 2014 with effect from 1st January 2015. The registered office of Sri Lanka Atomic Energy Board is located at No. 60/460, Baseline Road, Orugodawatta, Wellampitiya (same number has been assigned for the new building).

SRI LANKA ATOMIC ENERGY BOARD
NOTES TO THE FINANCIAL STATEMENTS
FOR THE PERIOD ENDED 31-12-2021

	2021	2020
Note - 03 Current Assets		
Cash at Bank		
Ac no:071-1-001-1-3320739	7,177,820	25,825,812
Ac no:071-1-002-1-3320740	39,598,193	109,375,635
Stamp Stock-SLAEB	25,210	29,850
Stamp Stock-NCNDT	26,743	37,113
Balance at the end of the year	<u>46,827,966</u>	<u>135,268,410</u>
Note - 04 Receivables	32,328,829	30,441,816
<u>Trade & Other Receivables</u>		
4.1 Debtors		
4.1.1 Trade Debtors	20,396,534	17,810,923
4.1.2 Provision for Doubtful Debts	(501,441)	(414,666)
Balance at the end of the year	<u>19,895,092</u>	<u>17,396,257</u>
4.2 Staff & Non Trade Receivables		
4.2.1 Staff Debtors	96,150	147,618
4.2.2 Other debtors	366,404	545,122
Balance at the end of the year	<u>462,554</u>	<u>692,740</u>
4.3 Advances & Loans		
4.3.1 Motor Cycle Loan	88,334	74,167
4.3.2 Cycle Loan	263	263
4.3.3 Festival Advance	7,450	7,450
4.3.4 Distress Loan	11,403,803	11,811,044
4.3.5 EPF Arreas	514	514
4.3.6 Book Advance	1,200	7,887
4.3.7 Special Distress Loan	469	2,344
Balance at the end of the year	<u>11,502,032</u>	<u>11,903,669</u>
4.4 Refundable Deposits (Receivable)	469,150	449,150
Note - 05 Inventories		
Chemical Stock -AEB	3,183,430	3,532,302
Office , Laboratory Consumable , fuel & Vehicle Spare Stock - AEF	6,373,864	9,435,422
IAEA Closing stocks (Donation))	2,797,424	2,591,798
Closing stock -Radiation Processing Section	706,179	508,632
Office, Laboratory Consumable, Chemicle & Fuel Stock at SLGC	882,084	480,474
Office, Laboratory Consumable & Chemicle Stock at NCNDT	2,410,774	1,713,591
GM Counter	623,426	623,426
Balance at the end of the year	<u>16,977,181</u>	<u>18,885,647</u>



SRI LANKA ATOMIC ENERGY BOARD
NOTES TO THE FINANCIAL STATEMENTS
FOR THE PERIOD ENDED 31-12-2021

		2021	2020
Note - 06	Prepayments		
	Ceylon Business Appliances - Service Agreement	7,604	6,627
	Access International (Pvt) Ltd - Service Agreement	20,949	
	Metropolitan Office (Pvt) Ltd - Service Agreement	12,427	
	Sri Lanka Insurance Corporation - Insurance	332,644	307,412
	Metropolitan Communication Ltd -Service Agreement		60,336
	Avon Safe Fire Service -Service Agreement		159,318
	C. E. L. Lanka (Pvt) Ltd -Service Agreement	65,865	37,637
	Praseshiya Saba- Kelaniya -Rates 2019 NCNDT	45	
	Cyber concepts(Pvt)Ltd - Service Agreement	8,219	
	SOFT TECH ONE PVT LTD - Service Agreement	138,356	
	S.L.Accreditation Board- - Annual Fee	144,986	289,233
	Fentons Limited -Service Agreement	55,925	55,925
	John Keells O.A. (Pvt) Ltd -Service Agreement	32,727	32,727
	SLAERC -License Fee	168,000	357,200
	Trade Promoters (Pvt) Ltd -Service Agreement	101,478	91,784
	Q.B.Lanka (Pvt) Ltd -Service Agreement	17,425	17,425
	QBL ERP LANKA (PVT) LTD -Service Agreement	12,932	12,932
	National Insurance Trust Fund -KH 3630 Insurance	52,268	54,307
	Metropolitan Engineering (Pvt) Ltd -Service Agreement	42,408	112,633
	Fire Security Systems (Pvt) Ltd -Service Agreement	30,966	33,123
	Gestetner of Ceylon PLC -Service Agreement	11,464	
	International Committee for NDT -Subscription fee		98,677
	Soar Technology (Pvt) Ltd -Service Agreement	126,546	
	Softlogic Life Insurance PLC -Service Agreement	5,079,148	
	Co-operative Insurance Company Limited - Medical Insurance		4,752,009
	Office Network (Pvt) - Service Agreement		4,671
	Metropolitan Technologies (Pvt) L -Service Agreement	111,799	
	Urban Council,Kolonnawa - Rates for 2021	396,000	396,000
	Telesonic Lanka -Service Agreement		19,848
	Rentokil Initial Ceylon (Pvt) Limited -Service Agreement	109,769	
	University of Colombo -Staff Training	62,055	
	Co-operative Insurance Company Limited - Insurance	5,778	
	Softlogic Life Insurance PLC- Medicle Insurance	42,784	
	K. S TRADING (PVT) LTD -Service Agreement	49,914	
	Sweet House Mahara- Refreshment for new year	13,960	
	Hela Bojun - Refreshment for new year	9,270	
	Telecommunications Regulatory Commission	19,848	
	Balance at the end of the year	7,283,562	6,899,824

Note - 07	Other Current Assets	196,130,663	198,708,071
7.1	With holding Tax Receivable	587,285	587,285
7.2	Economic Services Charges	863,562	863,562
7.3	Income Tax Advance	17,158	17,158
7.4	VAT Receivable	-1	(1)
7.5	Input Vat	3,248,395	3,248,395
7.6	Payment receivable from UDA	188,663,837	188,663,837
7.7	Advance payment for Smart Book	300,000	300,000
7.8	Income Tax	1,031,961	1,031,961

SRI LANKA ATOMIC ENERGY BOARD
NOTES TO THE FINANCIAL STATEMENTS
FOR THE PERIOD ENDED 31-12-2021

		2021	2020
7.9	Purchasing Advance		
7.10.1	Local Purchase Balance at the beginning of the year	3,995,874	1,614,672
	Purchasing Advance for the year	4,554,920	5,563,182
	Settlements	(8,388,966)	(6,823,705)
	Local Purchase advances	161,828	354,149
	Foreign Currency Advance	1,256,637	3,641,726
	Balance at the end of the year	1,418,465	3,995,874
Note - 08	Work-In-Progress		
	Development Proj of Web	382,500	382,500
	PMSL Management System	-	136,000
	Procedure Manual of SLAEB	437,000	437,000
	New Building (WIP)	3,414,568	3,414,568
	Modification of barcode system	-	200,000
	Testing Panel-SLGC	293,075	293,075
	Cycltron Projects	622,425	
	Green House Projects	45,716	
	Balance at the end of the year	5,195,284	4,863,143
Note -09	Property, Plant & Equipment		
Note -9.1	Intangible Assets	4,112,292	3,565,949
Note -9.2.1	Land & Building	1,731,913,195	922,424,970
Note -9.2.2	Plant, Equipment & Furniture	976,794,671	828,820,106
	Balance at the end of the year	2,712,820,158	1,754,811,025
Note- 10	Unusable Items		
	Unusable Items	31,850	31,850
	Unusable laboratory chemicles	397,758	397,758
	Pro. For unusable laboratory chemicles	(397,758)	(397,758)
		31,850	31,850
Note- 11	Trade Payable/Funds received for Projects	96,379,054	86,825,842
11.1	Creditors & Accruals		
	Creditors & Accruals Opening Balance	49,672,438	62,590,153
	Provision for the year	23,326,949	19,396,350
	Settlement during the year	(18,544,038)	(32,314,065)
	Balance at the end of the year	54,455,349	49,672,438
11.1.1	Vat Payable from Debtors	17,518	17,518
	SLRDC Retention	7,939,673	7,939,673
		7,957,191	7,957,191
11.1.2	Over Income	0	1,813
11.1.3	E PF control	2,203,524	2,249,922
11.1.4	E T F control	262,338	268,419
11.1.5	Unidentify Deposit	2,193,794	1,149,570
11.1.6	Retention -Secura Tech PVT Ltd.	500,000	500,000
11.1.7	Salary Control A/C	49,094	
11.1.8	Advance Income For Food Testing	25,600	0
11.1.9	Advance Income For Genral Scintific Division	12,500	
11.1.10	NERD Retention	0	101,188
11.1.11	Exposure Room-Retention	1,467,414	1,467,415
11.1.12	Retention -Lab interior	1,976,971	
11.1.13	Advance Income For TLD	806,386	
		9,497,620	5,738,327



SRI LANKA ATOMIC ENERGY BOARD
NOTES TO THE FINANCIAL STATEMENTS
FOR THE PERIOD ENDED 31-12-2021

	2021	2020
IAEA Funds received for Projects		
11.1.13 Advance received for CKD project	435,047	435,047
11.1.14 Advance received for I A E A project No 18066	4,961,264	5,254,126
11.1.15 Advance received for C K D U Project	45,750	45,750
11.1.16 CRP Alarm Assessment	3,126,545	3,126,545
11.1.17 CRP Project-Isotope Hydrology Section	1,630,654	1,630,654
11.1.18 CRP SRL 21090	5,612,584	4,948,091
11.1.19 Research Contact No 41015/19004 R	1,370,354	1,683,634
11.1.20 IAEA Research Contact No 22308	687,136	687,136
11.1.21 RCARPI/RC7	3,794,017	4,020,928
11.1.22 WHO Project-GSD	245,389	287,889
11.1.23 IAEA Research Contact No 22417	1,023,386	1,023,386
11.1.24 IAEA Research Contact No 24471	1,411,770	
	22,932,125	23,143,186
11.2 Refundable deposit Payable	125,000	314,700
	125,000	314,700
Note -12 Retirement Benefit Obligations		
Balance at the beginning of the year	38,836,936	33,380,685
Prior Year Adjustment		
Restated Opening Balance	38,836,936	33,380,685
Cash Paid	(2,039,340)	(2,493,472)
Add : Provision for the year	4,101,591	7,949,723
Balance at the end of the year	40,899,187	38,836,936
Note -13 Decommission Charge for Co-60		
Balance at the beginning of the year	5,413,174	5,155,404
Charge for the year	270,659	257,770
Balance at the end of the year	5,683,833	5,413,174
Note - 14 Capital & Reserves		
Balance at the beginning of the year	1,900,845,118	1,794,795,981
Prior Year Adjustment		
Restated Opening Balance	1,900,845,118	1,794,795,981
Capital Grant Received for the year	96,569,000	162,975,000
Adjustments made for the year-Capital Grant	(34,367,853)	(29,264,545)
Adjustments made for the year-GTRI	(1,003,763)	(1,252,043)
Adjustments made for the year-RDA	(39,433)	(6,709)
Adjustments made for the year-Power & Energy Ministry	(21,562,344)	(26,402,565)
Grant Received for Land	231,000,000	-
Grant Received for Building	597,204,722	
Balance at the end of the year	2,768,645,448	1,900,845,118
Note -14A Revaluation Reserve		
Adjustments made for the year	34,066,076	
Balance at the end of the year	34,066,076	
Note -15 Accumulated Fund		
Opening Balance	190,774,857	179,350,567
Prior Year Adjustment		
Restated Opening Balance	190,774,857	179,350,567
Donations Received for the Year		34,211,940
Adjustments made for the year	(23,355,769)	(22,787,649)
Balance at the end of the year	167,419,088	190,774,857

SRI LANKA ATOMIC ENERGY BOARD
NOTES TO THE FINANCIAL STATEMENTS
FOR THE PERIOD ENDED 31-12-2021

		2021	2020
Note -16	Deficit		
	Balance at the beginning of the year	(72,786,143)	(76,674,040)
	Prior Year adjustments	32,506	-----
	Re stated Opening balance	(72,753,637)	(76,674,040)
	Adjustments made for the year		(11,800)
	Surplus/Deficit for the year	(22,743,557)	3,899,697
	Balance at the end of the year	<u>(95,497,195)</u>	<u>(72,786,143)</u>
Note -17	Revenue		
	Government Grant- Recurrent	27,000,000	88,000,000
	Differed Revenue	80,329,162	79,091,579
	Consumable Received as Donation	3,751,473	7,048,129
	Capital Received as Donation	6,886,722	
		<u>117,967,357</u>	<u>174,139,707</u>
Note -18	Generated Income		
	Irradiation services income -SLGC	59,057,336	47,297,231
	Food Testing	60,204,600	49,348,100
	Food Testing (HPGE Method)	2,640,200	2,548,100
	Nuclear Analytical Services	1,741,620	1,686,043
	Amendment Charges	2,180	2,180
	ICPMS	256,000	119,000
	Tritium Analysis	0	31,100
	Isotope Hydrology Division	0	12,540
	General Scientific Services	21,739,067	16,020,140
	NDT Inspection Services	13,627,706	12,924,861
	NDT Training Courses	3,042,766	1,739,410
	Stable Istopo Analysis	0	10,626
	Income from GAB	303,550	14,900
	Income from IRMS	1,534,200	
	Welder Qualification Facility	553,800	
	Balance at the end of the year	<u>164,703,025</u>	<u>131,754,231</u>
Note -19	Other Revenue		
	Interest on Loan	448,534	395,028
	Miscellaneous Income	301,024	99,631
	Rental Income - AERC	8,042,839	7,052,039
	Delay Charges of Capital Items	11,982	22,400
	Income from Solar System-SLGC	1,917,603	1,851,448
	Income from Solar System-NCNDT	1,256,231	1,023,549
	Balance at the end of the year	<u>11,978,214</u>	<u>10,444,095</u>



SRI LANKA ATOMIC ENERGY BOARD
NOTES TO THE FINANCIAL STATEMENTS
SRI LANKA ATOMIC ENERGY BOARD

		2021	2020
Note - 20	Wages, Salaries and Employee Benefits		
	Salaries	55,205,742	54,461,457
	NCNDT Salary and Employee Benefits	29,161,108	30,509,119
	Employees Provident Fund	10,162,019	9,587,911
	SLGC Salaries and Employee Benefits	24,934,841	25,822,028
	Employees Trust Fund	2,033,318	1,917,582
	Additional Allowances	0	1
	Over Time & Holiday payments	1,646,968	939,023
	Gratuity- for the Year	2,621,769	5,359,780
	Encasement of Medical leave	0	4,940,871
	Incentive	1,362,537	1,470,791
	Professional allowance	2,375,549	2,602,020
	Cost of living	9,703,992	9,336,034
	Trainee Allowance	522,000	325,000
	Fuel Allowance	2,122,406	2,257,450
	Chairman's Allowance	562,500	450,000
	Transport Allowance	3,350,000	3,000,000
	Balance at the end of the year	<u>145,764,751</u>	<u>152,979,068</u>
Note - 21	Supplies & Consumable Used		
	Fuel & lubricants	969,584	753,861
	Office Consumables & Stationary	1,326,715	1,531,598
	Laboratory Consumables	6,462,785	1,435,943
	Laboratory Consumable Donation	7,545,746	13,961,022
	Uniforms	673,139	320,494
	Clearing charges	49,523	77,719
	Supplies & Consumable Exp. At NCNDT	3,257,598	2,447,913
	Supplies & Consumable Exp. At SLGC	10,516,642	11,306,381
	Balance at the end of the year	<u>30,801,732</u>	<u>31,834,932</u>
Note -22	Depreciation /Amortization of Asset		
	Depreciation on Acquisition of Assets	48,840,571	48,056,557
	Depreciation on IAEA Donations	23,414,050	22,165,717
	Balance at the end of the year	<u>72,254,621</u>	<u>70,222,274</u>
Note -23	Maintanance of property, plant & equipment		
	Maintenance of Office Building	3,524,211	2,545,557
	Service & Repairs of Equipment	3,251,001	2,027,918
	Maintenance of Motor vehicle	1,383,295	1,482,279
	Balance at the end of the year	<u>8,158,507</u>	<u>6,055,753</u>
Note -24	Other Recurrent Expenditure		
	Remuneration for Authority Memb.	571,000	387,716
	Training Programme ,Seminars	130,299	162,055
	Effi. Bar Examination	231,505	342,722
	Staff Local Training Programme	407,719	424,024
	Exhibition	695,350	17,461
	Incidental Expenses for Scientist	48,220	35,155
	Entertainment	546,578	73,420
	Advertisement & publicity	355,104	133,776
	Subscript. for Newspapers	47,510	24,340

SRI LANKA ATOMIC ENERGY BOARD
NOTES TO THE FINANCIAL STATEMENTS
SRI LANKA ATOMIC ENERGY BOARD

	2021	2020
Cont.....	3,033,286	1,600,669
Printing & Publications	1,138,879	649,255
Welfare Services	2,144,178	51,275
Audit Fees	650,000	596,925
Miscellaneous Expenses	43,155	79,246
Payment for Life Science Division	227,000	156,600
Maintanance QMS	638,688	447,268
Research & Development Projects	165,820	198,537
Stamp Duty	15,325	4,900
Doubtful Debtors	86,802	130,620
S L G C Operating Expences	17,118,212	14,658,665
NCNDT Operating Expences	12,882,849	13,281,288
Office Traveling	150,611	165,542
IAEA General Conference	935,943	-
Traveling for Authority Members	326,000	245,000
Electricity	6,103,154	6,494,996
Water	127,571	139,375
Telephone	1,141,929	1,135,743
Telex,fax & e-mail	550,807	535,662
Postage	592,240	300,460
Security	4,659,876	3,839,025
Insurance	6,531,812	4,857,706
Transportation	468,114	1,236,791
Rates	396,000	396,000
Nuclear Power Plan Project	24,244	9,185
Subscription fees for Local and Foreign Membership	83,796	72,643
Pay.for Licence Fee	21,367	40,000
DPC,TEC.PC Member Fees	110,000	0
Balance at the end of the year	60,367,659	51,323,375

Note - 25

Finance cost

Bank Charges	44,883	19,450
Loss of Exchange Rate	-	3,484
Balance at the end of the year	44,883	22,934



Intangible Assets		Note 9.1	Cost					Amortization/Depreciation						W D V as at 31.12.2021
Description	Life of the Asset	As at 01.01.2021	Adjustment Made	Re-stated Opening Bal.	Additions/ Transfers in	Disposal	Balance as at 31.12.2021	As at 01.01.2021	Adjustment Made	Re-stated Opening Bal.	Amortization/Dep: for the year	Adjustment/ Disposal	As At 31.12.21	
Software package	10	5,141,500		5,141,500	1,080,000		6,221,500	1,575,551		1,575,551	533,657		2,109,208	4,112,292
Total		5,141,500	-	5,141,500	1,080,000	-	6,221,500	1,575,551	-	1,575,551	533,657	-	2,109,208	4,112,292

Property Plant & Equipment – Note No 09

Tangible Assets		Cost						Amortization/Depreciation						W D V as at 31.12.2021	
Lease Hold Assets	Note- 10.1.2	Life of the Asset	As at 01.01.2021	Adjustment Made	Re-stated Opening Bal.	Additions/ Transfers in	Disposal	Balance as at 31.12.2021	As at 01.01.2021	Adjustment Made	Re-stated Opening Bal.	Amortization/D ep: for the year	Disposal		As At 31.12.2021
Land		99			-	231,000,000		231,000,000						-	231,000,000
			-		-	231,000,000	-	231,000,000	-	-	-	-	-	-	231,000,000
Owned Assets															
Land & Building	10.2.1														
NDTC-Land			90,884,994		90,884,994			90,884,994	-					-	90,884,994
Office & Lab Building-HO		2	-		-	597,204,722	-	597,204,722	0		0	53,994		53,994	597,150,728
Office & Lab Building - NCNDT		50	484,695,549		484,695,549	28,263		484,723,812	57,957,796		57,957,796	9,693,911		67,651,707	417,072,105
Office & Lab Building-SLGC		50	413,449,721		413,449,721	-		413,449,721	44,693,003		44,693,003	8,268,994		52,961,997	360,487,724
Exposure room-NDT			36,200,224		36,200,224		(3,857)	36,196,367	154,719		154,719	724,004		878,723	35,317,644
Total			1,025,230,487	-	1,025,230,487	597,232,984	(3,857)	1,622,459,616	102,805,518	-	102,805,518	18,740,903	-	121,546,421	1,500,913,195
Plant , Equ. & Furniture		10.2.2													
SLGC Retaining wall		25	20,236,579		20,236,579			20,236,579	4,375,536		4,375,536	809,463		5,184,999	15,051,580
Boundary Wall		25	-		-			-	0		0			0	(0)
Scientific Equipment		20	354,753,453		354,753,453	16,017,717		370,771,170	130,936,631		130,936,631	16,394,590		147,331,221	223,439,949
Scientific Equipment donation		20	494,369,376		494,369,376	8,058,633		502,428,009	161,052,566		161,052,566	23,414,050		184,466,616	317,961,393
Cobalt 60			253,168,986		253,168,986	105,258,596		358,427,582	102,951,926		102,951,926	8,074,541		111,026,467	247,401,114
Office Equip/ Furn & Fitti.		13.3	74,276,313		74,276,313	43,905,546		118,181,859	29,710,591		29,710,591	3,985,263		33,695,854	84,486,005
Other Equipment		13.3	13,648,840		13,648,840	0		13,648,840	1,774,917		1,774,917	1,269,888		3,044,805	10,604,035
Motor Vehicle		10	32,660,217		32,660,217	4,389,783		37,050,000	27,100,261		27,100,261	2,576,236.63	(29,676,293)	204	37,049,796
Radiation facility		25	214,317		214,317	-		214,317	214,315		214,315			214,315	2
Library Books		20	2,672,945		2,672,945	23,450		2,696,395	1,373,298		1,373,298	93,922		1,467,220	1,229,175
Computer items		10	27,485,470		27,485,470	1,626,200		29,111,670	15,956,821		15,956,821	2,001,082		17,957,903	11,153,766
Electronic Items		10	19,208,101		19,208,101	72,950		19,281,051	12,420,982		12,420,982	1,341,251		13,762,233	5,518,819
NDT Boundary Wall		25	2,583,023		2,583,023	-		2,583,023	964,423		964,423	103,321		1,067,744	1,515,280
Solar Power- NCNDT		25	8,412,879		8,412,879	-		8,412,879	815,012		815,012	336,515		1,151,527	7,261,352
Solar Power- SLGC		25	16,361,979		16,361,979	-		16,361,979	1,585,094		1,585,094	654,479		2,239,573	14,122,406
Total			1,320,052,478	-	1,320,052,478	179,352,875	-	1,499,405,352	491,232,373	-	491,232,373	61,054,602	(29,676,293)	522,610,682	976,794,671

NET BOOK VALUES		Rs.	Note	2021	2020
Intangible Assets					
Software package	9.1			4,112,292	3,761,178
				<u>4,112,292</u>	<u>3,761,178</u>
Tangible Assets					
Lease Hold Properties				231,000,000	
Land & Building	9.2.1			1,500,913,195	902,667,831
Plant , Equ. & Furniture	9.2.2			976,794,671	821,039,066
				<u>2,708,707,866</u>	<u>1,723,706,897</u>
				<u>2,712,820,159</u>	<u>1,727,468,075</u>

NATIONAL CENTER FOR NON DESTRUCTIVE TESTING
STATEMENT OF FINANCIAL PERFORMANCE
FOR THE PERIOD ENDED DECEMBER 31 -2021

		Value in Rs.	
	Notes	2021 Rs.	2020 Rs.
Revenue	1	26,389,842	22,739,859
Total Revenue		26,389,842	22,739,859
Wages, Salaries and Employee Benefits	2	(29,161,108)	(30,509,120)
Supplies & Consumable Used	3	(3,257,598)	(2,447,914)
Other Recurrent Expenditure	4	(12,882,849)	(13,281,290)
Total Expenditure		(45,301,556)	(46,238,324)
Deficit for the year		(18,911,715)	(23,498,465)

Notes to the accounts
as at 31-December 2021

	2021	2020 Rs.
1 Revenue		
NDT Inspection	13,627,706	12,924,861
NDT Training Course	3,042,766	1,739,410
Welder Qualifications Facility	553,800	
Other Income	9,165,569	8,075,588
	<u>26,389,842</u>	<u>22,739,859</u>
2 Wages, Salaries and Employee Benefits		
Salary	19,044,807	18,015,854
Cost of Living	3,122,701	3,265,021
Employees Provident Fund	3,069,345	3,187,991
Employees Trust Fund	612,385	637,598
Fuel Allowance	174,000	245,539
Additional Allowance		-
Overtime/Weekend payment	303,569	307,259
Medical Encashment		1,455,068
Trainee Allowance		
Incentive	518,137	510,369
Gratuity	894,180	1,306,247
Professional Allowance	821,984	831,400
Transport Allowance	600,000	746,774
	<u>29,161,108</u>	<u>30,509,120</u>
3 Supplies & Consumable Used		
Office Consumables & Stationary	930,430	447,175
Fuel & lubricants	1,760	-
Laboratory Consumables	2,001,825	1,949,865
Uniforms	323,583	50,874
	<u>3,257,598</u>	<u>2,447,914</u>
4 Other Recurrent Expenditure		
NDT Training Course	302,831	216,255
NDT Inspection	1,447,122	1,541,479
Staff Training	107,515	266,454
Transport	568,068	631,307
Electricity	621,867	1,300,438
Telephone	209,926	185,240
Telex, Fax, IDD	276,096	238,137
Water	53,841	115,002
Building Maintenance	1,950,334	2,259,926
Security	3,512,160	3,329,555
Training Programme		
Equipment Maintenance	647,337	1,016,357
Staff Welfare	256,022	41,637
Travelling & Subsistence	35,950	68,656
DPC, TEC, PC Member fee NDT	121,500	11,057
Insurance	1,451,928	1,055,619
Printing & Publication	111,950	45,000
Advertisement	33,372	
NDT Certification	18,000	380
Research & Development		
Miscellaneous	38,000	101,965
Rates & Taxes		50
Postage	29,855	28,955
Licence Fee	361,348	72,000
Entertainment	340	4,609
Vehicle Maintenance		-
Clearing Charges		73,918
Maintenance QMS	372,651	509,500
Welder Qualifi. Facility	224,090	118,180
Stamp Duty		275
Sub Fee for Local & Forig	130,748	49,339
	<u>12,882,849</u>	<u>13,281,290</u>

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

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**SRI LANKA GAMMA CENTER
STATEMENT OF FINANCIAL PERFORMANCE
FOR THE PERIOD ENDED DECEMBER 31 -2021**

		Value in Rs.	
	Notes	2021 Rs.	2020 Rs.
Revenue	1	60,974,939	65,904,730
Total Revenue		<u>60,974,939</u>	<u>65,904,730</u>
Wages, Salaries and Employee Benefits	2	(24,934,841)	(21,749,959)
Supplies & Consumable Used	3	(10,516,642)	(11,982,588)
Other Recurrent Expenditure	4	(17,118,212)	(16,529,272)
Total Expenditure		<u>(52,569,695)</u>	<u>(50,261,819)</u>
Surplus/ Deficit for the year		<u><u>8,405,244</u></u>	<u><u>15,642,911</u></u>

Notes to the accounts
as at 31-December-2021

2021
Rs.

2020
Rs.

Note 01	Revenue		
	Sales Income	59,057,336	54,804,214
	Income from Solar Power System	1,917,603	1,007,512
	Differed Revenue -Cobolt 60	8,074,541	10,093,004
		<u>69,049,480</u>	<u>65,904,730</u>
Note 02	Wages, Salaries and Employee Benefits		
	Salary	11,791,318	10,445,698
	Employees Trust Fund	391,026	384,039
	Employees Provident Fund	1,955,134	1,920,195
	Cost of Living	2,203,522	2,355,600
	Gratuity	585,643	1,019,048
	Overtime	3,864,683	1,395,630
	<u>Staff Allowance</u>		
	Shift Allowance	1,909,750	1,653,063
	Meal Allowance	278,509	178,000
	Fuel Allowance	375,750	
	Additional Allowance	-	253,958
	Oncall Allowance	120,000	120,000
	Medical Encashment		331,588
	Professional Allowance	281,065	383,816
	Transport Allowance	600,000	601,757
	Insentive	383,301	324,000
	Man Power	700	
	Fuel Allowance	194,440	383,568
		<u>24,934,841</u>	<u>21,749,959</u>
Note 03	Supplies & Consumable Used		
	Fuel & lubricants	323,271	729,603
	Office Consumables & Stationary	629,496	277,508
	Laboratory Consumables	1,085,562	442,103
	Decommisioning Charge	270,659	245,495.44
	Co 60 ^u decay Cost	8,074,541	10,093,004
	Clearing Charges	11,716	
	Uniforms	121,397	194,875
		<u>10,516,642</u>	<u>11,982,588</u>
Note 04	Other Recurrent Expenditure		
	Local & Foreign Membership fee	4,910	
	Workshop, Seminar, Symposium		106,897
	Staff Training	75,500	162,630
	Transport	939,166	100,214
	Electricity	2,759,142	1,903,193
	Telex, Fax,IDD	207,982	194,052
	Telephone	273,126	319,700
	Water	221,946	135,884
	Vehicle maintainance	104,060	444,559
	Building Maintenance	2,641,881	2,485,067
	House Rent & Medicare Service	545,793	537,097
	Incidental exp.visting sci		
	Security	4,780,944	3,927,263
	Man power		
	Clearing charges		46,895
	Equipment Maintenance	2,060,600	2,574,354
	Miscellenous expenses	1,470	4,404
	Travelling & Subsistence	19,580	101,768
	Welfare	188,572	74,987
	Insurance	1,713,785	2,910,580
	Advertisement	16,524	15,300
	Printing & Publication	11,940	3,675
	Postage	1,335	6,595
	Licence Fee	144,167	175,082
	Entertainment	12,866	34,106
	Maintanance QMS	392,924	264,971
	Effi.Bar Examination		
	Stamp Duty		
		<u>17,118,212</u>	<u>16,529,272</u>

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

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Disclosures to Accounts

1. Relocation of the Sri Lanka Atomic Energy Board.

Sri Lanka Atomic Energy Board (SLAEB) was relocated to its new building which was donated by the Government of Sri Lanka on 24th April 2018 under the New Bridge Construction over the Kelani River Project. Officially handing over of the building had been completed on 14th February 2019, and the occupancy rights of the building has been legally transferred to SLAEB with effect from the same date.

Value of the new building has not been mentioned in the transferring documents and therefore based on the Bills of Quantity (BOQ) values arranged to account the New Building of SLAEB w.e.f. 14th Feb 2019.

Road Development Authority (RDA) constructed a building for the use of Spent Source Storage Facility (SSSF) building, and it had been handed over on 16-01-2020. However, SLAEB was unable to account for the SSSF building, as value of the building has not been mentioned.

2. Commencement of Construction of remaining 5 floors – Phase II

New Project Proposal was submitted to the Department of National Planning (DNP) for the building construction of phase II in the new location. DNP had issued a no objection letter to commence the work of relocating SLAEB subject to providing the proper activity cost breakdown, BOQ and EIA report.

However, considering the current economic status of the country, the Government has temporarily suspended the construction of the new buildings for several forthcoming years.

3. Ownership of the Lands

1.1 Land allocated to the Atomic Energy Authority (AEA) under the Lease Agreement No.769 in September 1996

2020/08/10 වන දින මාර්ග සංවර්ධන අධිකාරිය විසින් නීතිපති දෙපාර්තමේන්තුවට ලිපියක් යොමු කරමින් මුලික පිඹුර 9605 හි අංක 2,3 හි හිමිකම් සම්බන්ධව ඇතිව ඇති ගැටළු සම්බන්ධයෙන් නීතිපති උපදෙස් ඉල්ලා ඇත. එකී ලිපියේ 7.1 අයිතමය පරිදි UDA හා SLAEB අතර ඇති කර ඇති අංක 769 දරණ 99 අවුරුදු බදු ගිවිසුම UDA ට අයත් නොවන 9605 දරණ පිඹුරේ කැබලි අංක 2 දරණ ඉඩම් කොටස ද ඇතුළත්ව ඇති බැවින් එම ගිවිසුම වලංගු වන්නේද නැද්ද යන්න විමසා ඇත.

එසේම එහි අංක 2 වන අයිතමයෙන් අංක 9605 මුලික පිඹුරෙහි කැබලි අංක 3 හි දක්වා ඇති ඉඩම් කොටස කිසිදු මුදල් ගෙවීමකින් තොරව විශේෂ දීමනා පත්‍රයක් මගින් නාගරික සංවර්ධන අධිකාරියට රජයෙන් ලබා දී ඇති බැවින් නාගරික සංවර්ධන අධිකාරියට එම සඳහා වන්දි හිමිකමක් තිබේද නැද්ද යන්න විමසා ඇත.

නව කැලණි පාලම ඉදිකිරීම ව්‍යාපෘති කාර්යයන් සඳහා අත්කර ගනු ලැබූ මු.පි.කො. 9605 හි කැබලි අංක 2 හා 3 හි හිමිකම් සම්බන්ධව ඇතිව ඇති ගැටළුවට අදාළව ඉහත පරිදි ගරු නීතිපතිතුමා වෙත නීතිපති උපදෙස් සඳහා යොමු කරන ලද ලිපි වලට පිළිතුරු වශයෙන් නීතිපති දෙපාර්තමේන්තුවේදී 2021.12.22 දින සාකච්ඡාක් සඳහා කැඳවන ලදී.

එහිදී, මෙම ගැටළුව පිළිබඳව පැහැදිලි කරමින් දන්වා සිටියේ මෙය විසඳීම සඳහා අදාළ ආයතන අයත් රේඛීය අමාත්‍යාංශයන්හි ලේකම්වරුන් සමග සාකච්ඡා කර බදු අයිතියට (නාගරික සංවර්ධන අධිකාරිය සමග අත්සන් කර ඇති අංක 769 දරණ 99 අවුරුදු බදු ගිවිසුමෙන් සත්‍ය වශයෙන් භුක්ති විඳ

නිවුනේ අවුරුදු 22 කි. ඒ අනුව ඉතිරි අවුරුදු 77 සඳහා) අදාළ වන්දි ලබා ගැනීමට කටයුතු කළ යුතු බව 2018 18/000 (019) අමාත්‍ය මණ්ඩල තීරණය අනුව දන්වන ලදී. එසේ නොමැති නම් කැබිනට් පත්‍රිකාවක් යොමු කර අදාළ වන්දි මුදල් අයිතිය ලබා ගැනීමට කටයුතු කිරීම සුදුසු බවට යෝජනා කරන ලදී. නීතිපති දෙපාර්තමේන්තුවේ උපදෙස් ලිඛිතව දැනුම් දෙන බව ද දන්වන ලදී.

පරමාණුක බලශක්ති මණ්ඩලයේ ඉල්ලීම පරිදි 2022/02/03 දින රේඛීය අමාත්‍යාංශය විසින් මාර්ග සංවර්ධන අධිකාරිය හා නාගරික සංවර්ධන අධිකාරිය අයත් අමාත්‍යාංශවල ලේකම්වරුන්ගේ සහභාගීත්වයෙන් යුතුව ඉහත ගැටලු විසඳීම සඳහා සාකච්ඡාවක් පැවැත්වීමට නියමිතව ඇත.

1.2 The Disputes regarding the SLAB New Building Situated Land

ඉහත කී නීතිපති දෙපාර්තමේන්තුවේ සාකච්ඡාවේදී ශ්‍රී ලංකා පරමාණුක බලශක්ති මණ්ඩලය විසින් දැනට පරමාණුක බලශක්ති මණ්ඩලයේ නව ගොඩනැගිල්ල ඉදිකර ඇති ඉඩමේ හිමිකම් සම්බන්ධයෙන් ද විමසා සිටින ලදී. එහිදී යෝජනා වූයේ පරමාණුක බලශක්ති මණ්ඩලය විසින් දිගින් දිගටම ඉල්ලා සිටි පරිදි ප්‍රදාන පත්‍රයකින් හිමිකම ලබා ගැනීමට කැබිනට් පත්‍රිකාවක් ඉදිරිපත් කරන ලෙසයි. තවද එහිදී දැනට පරමාණුක බලශක්ති මණ්ඩලයේ නව ගොඩනැගිල්ල ඉදිකර ඇති ඉඩමට අදාළව නාගරික සංවර්ධන අධිකාරිය හට ඇති බදු අයිතිය යටපත් කරමින් කැබිනට් පත්‍රිකාවකින් මෙම හිමිකම ලබා ගැනීමට උපදෙස් දෙන ලදී.

පරමාණුක බලශක්ති මණ්ඩලයේ ඉල්ලීම පරිදි 2022/02/03 දින රේඛීය අමාත්‍යාංශය විසින් මාර්ග සංවර්ධන අධිකාරිය හා නාගරික සංවර්ධන අධිකාරිය අයත් අමාත්‍යාංශවල ලේකම්වරුන්ගේ සහභාගීත්වයෙන් යුතුව ඉහත ගැටලු විසඳීම සඳහා සාකච්ඡාවක් පැවැත්වීමට නියමිතව ඇත.

කෙසේ වෙතත්, ඉඩමේ තක්සේරු වටිනාකම රු. 231,000,000 අනුව 2021-12-31 දිනට ඉඩමේ වටිනාකම ගිණුම්ගත කර ඇත.

4. Malabe Land

Under its relocation plan, SLAEB had paid Rs.181Mn to the Urban Development Authority (UDA) as per the Cabinet Decision 14/0277/526/002 dated 10.03.2014 for 03-acre land allocated in the Technology Park at Halbarawa, Malabe.

Accordingly, the relocation project was implemented under two phases. Japanese International Cooperation Agency (JICA) to provide required funds for the phase 1 through the Road Development Authority (RDA) and Government of Sri Lanka (GOSL) to provide necessary funds for the purchase of land and construction of building under phase 2. Approval had been granted for Rs.743Mn by the Department of National Planning for this project. But due to the protests carried out by the villagers, the above decision was reversed by the Cabinet decision AMAPA/16/1885/702/003/xxx dated 05.10.2016 and cancelled the project.

Considering the facts, the following steps were also approved by the Cabinet subcommittee in order to resolve this dispute situation.

1. Return back the Malabe land to the UDA in order to hand over it to the National Industrial and Apprenticeship Training Authority (NIATA).
2. Allocate the block of land to the extent 215 parches situated adjoining to present location of the SLAEB (Orugodawatta) belonging to the NAITA to the SLAEB in lieu of Malabe land.



3. Settle the financial transactions between two institutions in this regard considering the valuation reports of the Chief Government Valuer. Allocations for the payment of valuation fees have been made in the Budget 2018.

As at 31st December 2021, SLAEB has spent Rs.188Mn in total related with the above, but the transferring of the land has not yet finalized. Additional Secretary from Line Ministry was appointed to overlook this situation and to resolve the issues amicably.

5. Out Sourcing of Excess Space

Excess space available at NCNDT Centre (754m²) has been leased to the **Sri Lanka Atomic Energy Regulatory Council (SLAERC)** from April 2015 and renewed every two years. The agreement which has expired on March 2021 and has been extended up to 31st of March Two Thousand and twenty-three (2023).

6. De - Commissioning Cost

As per the agreement with the supplier of Cobalt 60, Ms Board of Radiation & Isotope Technology, SLAEB is liable to pay Rs.7,259,095/- as de-commissioning cost at dismantling point of sources after Ten (10) years of usage from the date of commissioning. Decommissioning cost of Cobalt 60 has been recognized in the current year on the basis of present value over a period of 10 years at the discount rate determined by using the following formula. Decommissioning cost is added to the cost of the assets each year and credited as a long-term liability.

Annual decommissioning amount is calculated based on the following formula and it is charged to Financial Performance Statement annually.

$$\frac{\text{Decommissioning cost (Present value)}}{(1 + r)^{10}} = \text{decommissioning cost (after 10 yrs.)}$$

7. IAEA Donations under Technical Co-operation

Sri Lanka Atomic Energy Board (SLAEB) functions as the Sri Lanka's focal point for the International Atomic Energy Agency (IAEA) in coordination and implementation of the Technical Cooperation Programme of in order to develop nuclear science and technology while, ensuring safety and security in the country.

Accordingly, the assets and consumables donated to SLAEB by IAEA under various projects have been accounted in SLAEB books of accounts.

The following details are relevant to the transactions during the year 2021 for SLAEB technical cooperation programmes.

Project No.	Project Description	Equipment	
		Euro	LKR
SRL7006	Vacuum Pressure Guage with Accessories Tweezers	7,984.44	2,786,976.65
	-SS C14 Sample Preparation Set		
	RADKOR Model SM-03 Survey Meter	2,978.32	816,087.07
	Direct Radiation Monitor 14464	2,805.75	771,942.80
	Total	13,764.51	4,375,006.52

In addition to above, SLAEB had conducted several research projects using IAEA assistance and trained SLAEB employees as well as officers of other national institutes in various fields. SLAEB officials had also participated in various meetings, training courses, workshops, symposiums etc. conducted in various 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. Euro 126,194.00 was made as contribution to International Atomic Energy Agency (IAEA)
2. Assessed Programme Cost (APC) and National Participation Cost (NPC) SLRS. 6 million paid from the External Resources Department (ERD) of the General Treasury.

SLAEB was also able to make opportunities for 103 Sri Lankan scientists who are involved in nuclear science field to participate in various overseas training meetings, seminars etc in order to enhanced their knowledge in the field. These opportunities were provided through IAEA Technical cooperation programme and other technical cooperation received through other international organization such as MEXT, RCARO, ICTP, KOICA, JAICA etc.

Technical assistance was received to mitigate the Environmental pollution due to fire of X-Press Pearl Ship near Colombo Harbour, Sri Lanka. An IAEA expert was to conduct an expert mission here in Sri Lanka however it was postponed due to re-outbreak of COVID and it will be rescheduled once the current condition become normal.

8. Commitments

i. Un settled commitments at the end of the year 2021

Cash balance as at 31.12.2021 represent the following commitment.

	Item	Amount Rs.
	<u>Recurrent Expenditure</u>	
1	Wages, Salaries and Employee Benefits	1,032,778
2	Supplies & Consumable Used	534,427
5	Repair & Maintenance	1,594,354
7	Other recurrent expenses	4,514,535
	Payable as at 31-12-2021	7,676,094
	<u>Capital Expenditure</u>	
1	Co 60 Custom Duty Fee 15,952,157.44	14,000,000
2	Portable Leeb Hardness Tester Portable PH/conductivity meter	215,000
3	PAUT PO 5093	8,050,000
4	Liquid N2 Storage Dewer PO 5109 03/11/2022	595,000
5	UT Bath Cleaner PO 5142	290,000
6	ArcGIS SW PO NO5219	2,000,000
7	CNC router drill	775,000
8	High-end computer	1,149,000
9	Green House	2,971,075
10	Peristaltic Pump	1,415,448



Water Pump 146

11	Glass Vacuum	12,000
12	Laser Cutter	1,782,000
13	Gas Regulators <i>gas cylinder. Argon 294</i>	322,500
12	Photocopier	820,800
13	Desktop Computers	1,257,000
	Payable as at 31-12-2021	35,654,823

9. Concluded Inquires

9.1 Magistrate Court Case No. MC/31796/2020

Complaint Date	Petitioner	Current status
22/04/2020	Ms. Manel Chandrasekara, Director Administration Sri Lanka Atomic Energy Board (SLAEB)	Some goods and equipment, which are entitled to the SLAEB have stolen by the thieves. Preliminary Investigation has been done by the Legal Officer of the SLAEB and the Preliminary Inquiry Report was submitted on 22/06/2020. The Legal Officer has indicated that the serious negligence and omission have been proved against the security service at that time. The SLAEB has lodged a police complaint and now this case before the Magistrate Court at Colombo. (case No.MC/31796/2020). The police have done their investigations and found the thieves and produced them before the court. The investigation is still going on. Further, this case was taken up on 04/01/2022 and the Court ordered police to release the SLAEB's goods, which were in police custody. The Police confirmed that they found some of the goods stolen by the thieves. However, finally police inwriting informed that the ladder (listed item) was missed during the police custody. Except the ladder, the SLAEB received the goods, which were in police custody so far on 20/01/2022.



10.2 Complaint against Misappropriation of Government Property

Complaint Date	Petitioner	Current status
29/11/2021	Mr. Shanthilal Rathnayaka (outside person)	The Board by its meeting held on 29/12/2021 taken a decision to investigate this matter and therefore appointed a committee comprising Chairman, Mr. Kavinda Dissanayake (Board Member) and the Legal Officer in this regard. Further, the Board decided to handover the above-mentioned investigation to the Criminal Investigation Department, Sri Lanka Police for fulfilling the legal requirements. CID Investigation is going on.

10.3 Labour Department Case

Complaint date	Petitioner	Current status
27/01/2020	කේ ආර් සී ද සිල්වා යන අය විසින් 2020.01.27 දින යොමු කරන ලද පැමිණිල්ල සම්බන්ධවයි.	උක්ත කරුණට අදාළව 1958 අංක 15 දරණ සේවක අර්ථසාධක අරමුදල් පනතේ 10 වන වගන්තිය අනුව දායක මුදල් ගෙවීමේ වගකීම සේවායෝජක වෙත පවරා ඇති අතර සේවකයාගේ වැටුපෙන් 8% ක් හෝ අනුමත ප්‍රතිශතය සමඟ සේවායෝජකයාගේ 12% හෝ අනුමත ප්‍රතිශතය සේවක අර්ථසාධක අරමුදලට බැරකළ යුතුය. මෙකී කාර්යය වැටුප් ගෙවනු ලබන අවස්ථාවේදී සිදු කෙරේ. එමෙන්ම හිත වැටුප් ගෙවීමේදී සේ.අ.අ අරමුදල් අඩුකළ යුතු බැවින් සේවකයාගේ ඉල්ලීම් සම්බන්ධයෙන් කටයුතු කිරීමට ව්‍යවස්ථානුකූල හැකියාවක් නොමැති බව සහකාර කම්කරු කොමසාරිස් විසින් දන්වා එවා ඇත. ඒ අනුව මෙම පැමිණිල්ලේ කටයුතු අවසන් කෙරිණි.

10.4 Preliminary Inquiry- Safety Violation of the Gamma Plant

Complaint Date	Petitioners	Current status
21/05/2021	1. Radiation Protection Officer, Gamma Centre	The Petitioners have made a complaint against the three employees in the Gamma Centre regarding the Safety Violation of the Gamma Plant.
	2. Plant Operation Manager, Gamma Centre	The Preliminary Inquiry Committee has been appointed including D/ICD, Legal Officer and Acting DD/RPTSD to investigate this matter.
	3. Acting Director Gamma Centre	The above-mentioned Preliminary Inquiry Committee submitted their amended Preliminary Inquiry Report to the Board on 24/12/2021. The Board, by its meeting held on 28/01/2022, deferred this matter to the review committee comprising the Board Members of Mr. Kamal Pathmasiri, Mr. Malith Perera and Dr. Jayasingam Jeyasugiththan.



10.5 Preliminary Inquiry on threatening to the Acting Deputy Director-NCNDT

Complaint Date	Petitioner	Current status
21/10/2021	Acting Deputy Director-NCNDT	The Preliminary Inquiry Committee has been appointed including D/Administration, D/RPTSD and Legal Officer to investigate this matter. Still, the investigation is going on.

11 MOU/Agreements Signing

11.1 MOU Between SLAEB and IGMH

The SLAEB has signed a Memorandum of Understanding regarding the TLD Service with the Indira Gandhi Memorial Hospital (IGMH) in the Maldives on 1st January 2022 and sent it to the Maldives for their signature.

11.2 Agreement Between SLAEB and Lalan Rubbers Pvt Ltd

The SLAEB has signed a Memorandum of Understanding with the Lalan Rubbers (Pvt) Ltd to use the facility of the Sri Lanka Gamma Centre (SLGC), for sterilization of surgical gloves that the Lalan Rubbers Pvt Ltd manufactures in Sri Lanka from 14th May 2021 to 13th May 2022.

12 Current Status of the Commercial Projects

12.1 Cyclotron project

The SLAEB has initiated an establishment of Cyclotron based Radio Pharmaceutical Production Centre in Sri Lanka.

Accordingly, SLAEB has signed an Agreement / Memorandum of Understanding regarding the Establishment of Cyclotron Based Radiopharmaceutical Production Centre in Sri Lanka with the Kothalawala Defiance University and the Medical Supplies Division on 13th January, 2021 at the SLAEB. Due to prevailing vibrant economic condition of the Country, the Bank loan was not approved by the bank. Therefore, it was decided to call for Expression of Interest (EOI) from the local investors to proceed the project with the approval of the Cabinet of Ministers.

11.1 Verification of the Origin of 'Ceylon Tea'

Summary progress of pilot Tea project

During the year 2021, 875 samples were collected from all seven growing tea regions in the country from the selected tea factories for the pilot project. ie: Sabaragamuwa, Kandy, Ruhuna, Dimbula, Nuwaraeliya, Udupusselawa, Bandarawela, Malwattavelly for one season. 74 Samples were collected from North India, South India, China, Vietnam, Kenya as other origin teas. All samples were processed according to the Standard Operating Procedures for the analysis. Sample analysis is in progress for stable isotopes and trace elements. The project activities were not completed as planned due to the COVID-19 pandemic situation.

The chemicals, consumables and certified reference materials for stable isotope and trace element analysis of 2000 samples were requested and received through Elementar under the technical cooperation of IAEA.

Preliminary stable isotope analysis was completed to determine optimum weight and instrument parameters for measuring carbon and nitrogen stable isotope ratios.

12. Analysis of Balance of Account of the Sri Lanka Atomic Energy Board

The Atomic Energy Authority (AEA) which was established by Atomic Energy Authority Act No.19 of 1969 has been repealed by the Sri Lanka Atomic Energy Act No.40 of 2014 and established a new institution as Sri Lanka Atomic Energy Board (SLAEB) with effect from 1st January 2015.

As per the Part IV, chapter XIV sub no. 90 of the Act No. 40 of 2014 all the staff belonged to AEA, all movable and immovable property, assets, obligations, debts, liabilities and the accumulated balance of the financial performance & position account remained at SLAEB have been transferred from AEA to SLAEB and SLAERC with effect from 01-01-2015.

The balance available as at 31-12-2014 and the amounts separated among the two institutions were as follows;

Values in Rs

Description	AEA Balance as at 31-12-2014	SLAEB	SLAERC	Retained amount with AEA
Current Assets	65,081,652	63,344,562	1,647,936	89,154
Non-Current Assets	874,108,147	860,064,717	14,043,430	-
Current Liabilities	64,919,502	59,187,950	5,626,391	105,161
Net Assets	874,270,297	864,221,329	10,064,975	(16,007)
Capital and Reserves				
Capital and Reserves	910,207,208	903,676,072	6,531,136	-
Capital Gain	1,187,150	1,187,150	-	-
Accumulated Fund	86,390,208	78,877,912	7,512,296	-
Deficit	(123,514,269)	(119,537,507)	(3,976,762)	-
Accumulated Capital	874,270,297	864,221,329	10,064,975	(16,007)

The movement of Accumulated Capital disclosed below for analysis of balances of the following accounts, shown separately in the Financial Statements of SLAEB. This is in order to maintain the true & fair view of the Financial Statements and to the better understanding of the users of the Financial Statements.

Values in Rs.

Description	SLAEB Opening Balance as at 01 st January 2015	SLAEB Amount movement during the period up to 31 st December 2021	SLAEB Financial statement balance 31.12.2021
Deficit /Surplus Account	(119,537,507)	24,040,313	(95,497,194)
Capital & Reserve Account	903,676,072	1,864,969,376	2,768,645,448
Accumulated Fund	78,877,912	88,541,176	167,419,088
Revaluation Reserve		34,066,076	34,066,076
Capital Gain	1,187,150	(1,187,150)	-
Accumulated Capital	864,203,627	2,010,429,791	2,874,633,418

Brought forward balances of Deficit / Surplus account, Capital & Reserve account & Accumulated Fund account applicable to two institutions namely AEA and SLAEB are shown separately in the following tables.



Analysis of Balance of Deficit / Surplus Account

Value in Rs.

Institution	Year	Opening Balance	Adjustments made	Balance for the year	End balance
Atomic Energy Authority (AEA)	Balance as at 01-01-2015	(119,537,507)			(119,537,507)
Sri Lanka Atomic Energy Board (SLAEB)	Year - 2015	(119,537,507)	(32,399,202)	(20,985,772)	(172,922,481)
	Year - 2016	(172,922,481)	65,252,274	3,864,974	(103,805,233)
	Year - 2017	(103,805,233)	(3,482,800)	1,456,454	(105,831,579)
	Year - 2018	(105,831,579)	(1,544,036)	(413,699)	(107,789,314)
	Year -2019	(107,789,314)	-	31,115,274	(76,674,040)
	Year -2020	(76,674,040)	(11,800)	3,899,697	(72,786,143)
	Year -2021	(72,786,143)	32,506	(22,743,557)	(95,497,194)

Institution	Year	Opening Balance	Adjustments made	Receipts for the year	End balance
Atomic Energy Authority (AEA)	Balance as at 01-01-2015	903,676,072			903,676,072
Sri Lanka Atomic Energy Board (SLAEB)	Year - 2015	903,676,072	-47,852,050	1,109,388,733	1,965,212,755
	Year - 2016	1,965,212,755	-93,528,253	35,211,544	1,906,896,046
	Year - 2017	1,906,896,046	117,632,925	22,627,145	1,811,890,266
	Year - 2018	1,811,890,266	-89,527,047	61,985,570	1,784,348,789
	Year - 2019	1,784,348,789	-61,604,808	72,052,000	1,794,795,981
	Year - 2020	1,794,795,981	-56,925,862	162,975,000	1,900,845,119
	Year - 2021	1,900,845,119	-56,973,393	924,773,724	2,768,645,450

Analysis of balance of Capital & Reserve Account

Value in

Rs.

Analysis of balance of Revaluation Reserve account

Value in

Rs.

Institution	Year	Opening Balance	Adjustment Made	Balance for the Yr.	End Balance
SLAEB	Year 2021	-----	-----	34,066,076	34,066,076

Analysis of balance of Accumulated Fund account

Value in Rs.

Institution	Year	Opening Balance	Adjustments made	Balance for the year	End balance
Atomic Energy Authority (AEA)	Balance as at 01-01-2015	78,877,912			78,877,912
Sri Lanka Atomic Energy Board (SLAEB)	Year - 2015	78,877,912	-16,682,969	4,826,752	67,021,695
	Year - 2016	67,021,695	53,561,571	21,245,807	113,828,953
	Year - 2017	113,828,953	-8,711,212	20,831,489	125,949,230
	Year - 2018	125,949,230	-8,163,174	81,229,155	199,015,211
	Year -2019	199,015,211	-27,359,796	7,695,153	179,350,567
	Year -2020	179,350,567	34,211,940	-22,787,649	190,774,857
	Year -2021	190,774,857	-23,355,770		167,419,088

13. Revaluation of Motor Vehicle

For the year ended 31.12.2021, the Revaluation of Motor Vehicles were done as the book value of some assets had become zero and market value of the vehicles have increased drastically in the current market context. Further the usable period of these assets can be extended further.

Motor Vehicles have been revalued based on the Valuation reports obtained from the Automobile Association dated 23-02-2022. These have been depreciated using straight - line method in par with the depreciation policy referred in the Note Number 1.3.2 to the accounts. The Depreciation was calculated based on the estimated remaining usable life of the Motor vehicles.

The details of calculation is shown in the statement referred to the Note no 9.1 to the accounts.



Chairman

Sri Lanka Atomic Energy Board

Auditor General's Report under Section 12 of the National Audit Act No. 19 of 2018 on the financial statement of Sri Lanka Atomic Energy Board for the year ended 31 December 2021 and other legal and regulatory requirements.

1. Financial Statements

1.1 Qualified Opinion

Sri Lanka Atomic Energy Board's Statement of Financial Position as of 31 December 2021 and Statement of Financial Performance for the year that ended, Statement of Change in Net Assets and Statement of Cash Flows for the year that ended, and Notes to the Financial Statements, summarizing significant accounting policies for the year ended 31 December 2021 and the financial statements for the year were audited under my direction following the provisions of the National Audit Act No. 19 of 2018 and the Finance Act No. 38 of 1971 read in conjunction with Article 154(1) of the Constitution of the Democratic Socialist Republic of Sri Lanka. In accordance with Article 154(6) of the Constitution, my report will be tabled in Parliament in due course.

Except for the effect of the matters described in the Basis for the Qualified Opinion section of my report, the financial statements of the Board give a true and fair view of the financial position as at 31 December 2021 and its financial performance and cash flows for the year then ended in accordance with Sri Lanka Public Sector Accounting Standards. That is my opinion.

1.2 Basis for Qualified Opinion

(a) The cost handed over to the Board by the Road Development Authority on 21 February 2019 was Rs. 587,542,795 worth of the main office building was not shown in the financial statements by the Board as a retrospective restatement of prior period errors in accordance with Sri Lanka Public Sector Accounting Standard No. 03 and instead of the cost, the tender value of Rs. 597,204,722 had been accounted for as addition to assets in the year under review. Further, the accumulated depreciation of the building as on 31 December 2020 was Rs. 21,543,236 were not accounted for.

(b) 214 items of scientific equipment with a carrying value of Rs.67,553,705 and a carrying value of nil as of December 31, 2021, the effective life of which is reviewed annually as per Sri Lanka Public Sector Accounting Standard 07 and revised as per Sri Lanka Public Sector Accounting Standard 03 had not arranged to do.

(c) Cost of Non-Destructive Testing laboratories of the Board, Rs. 33,344,903 in relation to the capacity value of 23 inactive scientific instruments and 16 instruments without cost information,

according to Sri Lanka Public Sector Accounting Standard 07 disclosures should be made in the financial statements, but the relevant disclosures were not made.

(d) Although 6 line items were revised in the audited financial statements of the previous year due to retrospective restatement of prior period errors, these revised items were not disclosed in accordance with Sri Lanka Public Sector Accounting Standard No. 03.

(e) In the year under review, the Board had received Rs. 96,569,000 as capital grants and foreign donations worth Rs. 75,940,112 worth of Cobalt 60 source stock were not accounted as income for the year as per Sri Lanka Public Sector Accounting Standard No. 11.

(f) Depreciation value of Cobalt 60 source in the year under review is Rs. 4,692,947 and the depreciation of office equipment and machinery Rs. 2,293,764 and due to the understatement of building depreciation by Rs.11,696,861, the loss for the year under review was Rs. 18,683,572 had been understated.

(g) Fixed assets and current liabilities were understated by Rs. 15,452,157 due to an understatement of customs duty related to Cobalt 60 source import.

(h) 2,762 TLD cards issued on a rental basis to 119 client organizations were not valued and accounted as assets.

(i) The foreign exchange profit and loss was not adjusted for the allocation made for the decommissioning cost of the Cobalt 60 source purchased in 2017. Also, the decommissioning cost related to the Cobalt 60 source purchased in 2021 was identified and no allocation was made for it.

(j) The contract agreement entered into for the purchase of Cobalt 60 source worth Rs.120,710,750, verification reports regarding stocks amounting to 16,977,181, and foreign aid agreements related to 12 foreign Coordinated Research Projects & project expenditure reports were not submitted to the audit.

I conducted my audit in accordance with Sri Lanka Auditing Standards (SRI). My responsibilities under these auditing standards are further described in the Auditor's Responsibilities for the Audit of Financial Statements section of this report.

1.3 Other information included in the Board's Annual Report-2021

Other information included means that the facts that is expected to be included in the Board's Annual Report-2021 and to be provided to me after the date of this audit report but not included in the financial statements and my audit report thereon, the management is responsible for such other information.

My opinion on the financial statements does not cover other information and I do not express any kind of assurance or opinion thereon.

In connection with my audit of the financial statements, my responsibility is to read the other information identified above when available and, in doing so, consider whether the other

information is materially inconsistent with the financial statements or with my knowledge obtained during the audit or otherwise.

If, upon reading the Board's Annual Report 2021, I conclude that there are material misstatements, the same shall be communicated to the controlling parties for correction. If there are any further uncorrected misrepresentations, they will be included in the report tabled by me in Parliament in due course in terms of Article 154(6) of the Constitution.

1.4 Management's and Controlling Parties' Responsibilities for Financial Statements

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

In preparing the financial statements, it is the management's responsibility to determine the smooth operation of the board and to disclose matters related to the smooth operation. Accounting of the smooth operation, unless the management intends to liquidate the board or, in the absence of any other alternative, cease operations is also the responsibility of management.

Controlling parties are responsible for the Board's financial reporting process.

In terms of sub-section 16 (1) of the National Audit Act No. 19 of 2018, the Board shall maintain proper books and records of its income, expenditure, assets and liabilities to enable it to prepare annual and periodic financial statements.

1.5 Auditor's responsibility in relation to the audit of financial statements

My objective is to provide reasonable assurance that the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue the audit report that includes my opinion. Reasonable assurance is a high level of assurance, but it will not always be assurance that material misstatements will be detected when performing an audit in accordance with Sri Lanka Auditing Standards. The effect of fraud and error, individually or collectively, can result in material misstatements, the materiality of which depends on the effect on the economic decisions made by users on the basis of these financial statements. I exercised professional judgment and professional skepticism in the audit as part of the audit in accordance with Sri Lanka Auditing Standards. I further,

- Planned appropriate audit procedures to identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, in providing a basis for the audit opinion expressed. The effect of fraud is stronger than the effect of material misstatements due to misrepresentation because they are caused by negligence, falsification, intentional omission, misrepresentation or circumvention of internal controls.
- Obtained an understanding of internal control in order to design appropriate audit procedures as appropriate, although not with a view to expressing an opinion on the effectiveness of internal control.

- Evaluated the appropriateness of accounting policies used, reasonableness of accounting estimates and related disclosures made by management.
- Determined the appropriateness of using the basis of the continuous existence of the board, accounting based on the audit evidence obtained as to whether there is material uncertainty about the continuous existence of the board due to events or circumstances. If I conclude that there is sufficient uncertainty, I should focus my audit report on the related disclosures in the financial statements, and if those disclosures are not sufficient, I should modify my opinion. However, the continuance may terminate upon future events or circumstances.
- Evaluated the overall presentation of the financial statements including the appropriate and fair inclusion of underlying transactions and events and disclosures for the structure and content of the financial statements. I inform controlled parties about significant audit findings, key internal control weaknesses, and other matters identified during my audit.

2. Report on other legal and regulatory requirements

2.1 The National Audit Act No. 19 of 2018 includes special provisions regarding the following requirements.

2.1.1 I have obtained all the information and explanations necessary for the audit in accordance with the requirements of Section 12 (a) of the National Audit Act No. 19 of 2018, except for the effect of the matters described in the Basis for Qualified Opinion section of my report, According to my investigation, the board had maintained proper financial records.

2.1.2 The Board's financial statements are consistent with the previous year as required by Section 6 (1) (d) (III) of the National Audit Act No. 19 of 2018.

2.1.3 In accordance with the requirement mentioned in Section 6 (1) (d) (iv) of the National Audit Act No. 19 of 2018, I have made recommendations other than those mentioned in paragraph 1.2 (b) and (e) of this report are included in the financial statements.

2.2 In the course of action followed and the evidence taken and confined to the material facts, nothing has come to my notice to the extent of making the following statements.

2.2.1 As per the requirement mentioned in Section 12 (d) of the National Audit Act No. 19 of 2018, any member of the Board of Directors of the Board has a relationship, directly or otherwise, outside the ordinary course of business in relation to any agreement involving the Board.

2.2.2 In accordance with the requirement mentioned in Section 12 (e) of the National Audit Act No. 19 of 2018, except for the following observations, that it has not acted in accordance with any relevant written law or other general or special directives issued by the Board of Directors of the Board.

Reference to Rules / Directive	Description
(a) Code of Currency Regulations of the Democratic Socialist Republic of Sri Lanka	
(i) Financial Regulations 454 and 715(2)(a), (c), (g), (e) and (f);	According to financial regulations, the safety of the scientific equipment in the laboratories of the National Center for Non-Destructive Testing was not maintained, the responsible officers were not appointed, the equipment was not issued with formal approval, and formal records were not maintained.
(ii) (Financial Regulations 715(c) and 104(1)	Although the goods should be issued and regulated under proper authority, an X-ray machine worth Rs.10,823,587 was not issued under proper authority and was not formally accepted at the time of re-acceptance.
(b) State Accounts Circular No. 30/94 dated 20 April 1994	During the year under review, the Board had received foreign grant receipts amounting to Rs.10,136,216 directly to the institution without going through the treasury. Of this, Rs. 2,077,583 as cash grants and Rs. 8,058,633 had also been received as grants of goods.
(c) Paragraph 6.5.1 of Public Enterprises Circular No. PED/12 dated June 02, 2003	Although the financial statements should be submitted for the interim audit 60 days after the end of the accounting year, the Board had submitted the accounts 217 days after the end of the accounting year.
(d) Guidance issued vide Asset Management Circular No. 04/2018 dated 31 December 2018	Although non-financial assets are to be valued every five years, the cost to the Board is Rs. 2,317,764,248 non-financial assets were not assessed.

(e) Quality Manual for Non
Destructive Testing
Paragraph 6.1.2

In order to carry out independent non-destructive testing services, the tests should be done by changing the officers, but in the year under review, out of 11 non-destructive tests conducted in a client institution, 8 tests were done by one officer.

Paragraphs 8.1.1 and 8.1.5

In the year under review, there were 7 cases where the inspection reports were signed by officers who did not have the required qualifications to sign as inspectors and 8 cases where the tests were done by a single officer in the year under review.

Paragraph 8.2.2

To access and use non-destructive testing equipment, there should be at least Level 01 training according to ISO 9712, but the equipment was also issued to officials who could not check and accept scientific equipment such as laboratory assistants

2.2.3 That the powers, duties and functions of the board have not been complied with as per the requirement mentioned in section 12 (g) of the National Audit Act No. 19 of 2018.

2.2.4 That the Board's resources have not been procured and used sparingly, efficiently and effectively within the time limits and in accordance with the relevant rules except for the following observations as required in Section 12 (h) of the National Audit Act No. 19 of 2018.

(a) The approved contract value of the building of the National Centre for Non Destructive Testing completed in the year 2014 is Rs. 308,600,000 though Rs. 120, 900,000 or a 39 percent contract variation, but as per Government Procurement Guidelines 8.13.4 and State Finance Circular No. 02/2012 dated August 07, 2012, the necessary Cabinet approval for the contract variation was not obtained until October 28, 2022. The Cabinet had given approval for the purchase of the land Rs. 84,000,000 and the land was valued at Rs. 85,000,000 for the land including Rs. 90,800,000 had been spent.

(b) In August 2020, the amount of Rs. 96,500,000 had been idly held in the Board's current account for about 9 months without being used for the relevant purpose. Also, the capital expenditure of the year 2021 of Rs. 35,654,823 was also idly retained in the board's current account without spending during the year.

(c) The Concrete Core Drilling equipment purchased for Rs.1,661,000 in February 2018 for concrete testing remained idle until October 31, 2022.

2.3 Other Matters

(a) Rs. 450,000,000 worth of cobalt 60 elemental 52 pencils were not individually inventoried and the material was not physically inspected and recorded during the annual commodity surveys.

(b) Several units of the National Center for Non-Destructive Testing (NCBNDT, Training unit and Inspection body) were carrying out all activities related to conducting courses related to non-destructive testing and providing inspection services to external parties. But there was no independent institution for the regulation and supervision of non-destructive testing, and no legal provisions had been drafted to enact the international standards used in this regard in Sri Lanka.

(c) In the year 2015, due to the acquisition of the land where the main office of the board is located for the construction of the new Kelani bridge, the board has constructed a new building through the said project on land owned by the National Apprenticeship and Training Authority. Also, before the selection of the above land, the project of constructing the new Kelani bridge by choosing land in Malambe area and spending Rs.333,446,138 on behalf of the board, when the building was being constructed, the money that had been spent had become an uneconomical expenditure due to public protests. When paying for the land in Malambe, the rent paid in advance to the Urban Development Authority for the land where the old building stood was Rs. 7,663,837 should be deducted and paid, but such deduction was not made. The market value of this land is Rs. 116,000,000 and the tax value for 30 years is Rs. 181,000,000 had been paid regardless of the government's assessment of 75,500,000.

(d) Expenditure payments in 16 expenditure subjects due to non-proper budget forecasting for the year 2021. Variations ranging from 30 percent to 100 percent were observed between the budgeted allocation and the actual expenditure in 6 recurrent expenditure subjects.

W. P. C. Wickramaratne

Auditor General

10.

The Auditor General's Report of 2021 and the measures taken by the Sri Lanka Atomic Energy Board to resolve its errors:

Reference to the AG's report	Actions taken to rectify the error reported / deficiencies pointed out (Responses given to the Draft Auditor General's Report are presented here)	Current progress
1.2	Correctly accounted for and arrangements will be made to republish the accounts for the year 2021.	During the preparation of the final accounts for the year 2022, the corrections for the year 2021 have been corrected and restated through journal numbers 1080, 1081, and 1085. (Re-state)
(අ)	A correction will be made in the year 2022.	Scientific instruments whose value is zero continue to perform countermeasures. But further work will be done based on the recommendations of the committees appointed to solve the problems in the process
(ආ)	These devices are used not only for non-destructive testing but also for non-destructive testing courses and examinations. Therefore, due to the constant use of these devices for a long period of time, malfunctions and problem situations occur. In the event of malfunctions and problem situations, contact the purchased company if the warranty period of the device has not expired, or if the warranty period has expired, repair will be done. In this way, the equipments that could not be repaired have been kept in NCNDT as there was no proper method to remove them even though they have been inactive for a long time.	Sri Lanka Public Sector Accounting Standard 07 will make disclosures in the financial statements in accordance with FR 104 (3) in relation to decommissioned equipment and other currents.
(ඇ)	A correction will be made.	Disclosure will be made in accordance with Sri Lanka Public Sector Accounting Standard No. 03 so that errors do not occur again in the future.
(ඈ)	A correction will be made.	Corrected in the financial statements of the year 2021 by Journal No. 1079 and 1089
(ඉ)	A correction will be made.	This error has been corrected in the financial statements of the year 2021 by Journal No. 1082 and 1088
(ඊ)	A correction will be made.	This error has been corrected by Journal No. 1090

(င)	• 2762 TLD cards have been issued to only 119 institutions on rental basis. It is difficult to consider TLD cards as a fixed or semi-fixed asset after use for the following reasons. • Availability of cards purchased at various prices from time to time under the above stock. • Inability to calculate depreciation over time as the quality of the card is not proportional to the time it is used. • Having to remove from use after becoming unusable due to technical reasons.	TLD cards are considered a fixed asset and cannot be accounted for and are therefore maintained in stock annually
(စ)	A correction will be made.	Due to the fact that the disposal cost of Cobalt 60 source purchased in the year 2021 was not mentioned in the agreement, it was not possible to make an allocation for the related disposal costs.
(ဆ)	A contract for the purchase of Cobalt 60 source is being procured from BRIT. Regarding the stock, the store items were verified and the verification reports of the stock provided by the scientific Divisions will be obtained from the year 2022. (This error is not presented in the draft Auditor General's report)	The contract for the purchase of Cobalt 60 source has been procured from BRIT, India. In respect to stocks, inventory item verification reports were given for audit in 2022.
2 (ဇ) (i)	Efforts will be made to prevent such errors from occurring in the future. For that, to the two Centres under the Head Office, the relevant responsible officers will be informed in writing about how to deal with the acceptance, release, etc. of assets and properties in accordance with FR.	After the Government Audit identified several problems in NCNDT's labs, decisive steps were taken to correct them immediately. Accordingly, first of all, steps were taken to develop a comprehensive procedure for the maintenance of laboratory equipment, regular inspection, maintenance and keeping of all equipment and machinery in optimum condition. Secondly, procedures were developed to monitor the safety of equipment and machinery in issuing and receiving back to the laboratories, keeping proper logs, and preventing misplacement and damage to the equipment. Thirdly, qualified and responsible persons as Laboratory Officers (OICs), Laboratory Technical Assistants (TAs) and Laboratory Assistants were appointed to the respective laboratories to deal with the laboratory equipment as mentioned in the Quality Manual. Along with these measures i.e. assignment of responsibilities taking into account the qualifications, efficient equipment management, and maintaining log records as mentioned in the quality manual have been done.
(ii)	Efforts will be made to prevent such errors from occurring in the future. For that, to the two Centres under the Head Office, the relevant responsible officers will be informed in writing about how to	During the challenging period of the Corona epidemic, the x-ray machine at NCNCT was out of order and the supplier was no longer the local representative of the relevant product, thus facing difficulties in resolving the issue with the mother

	deal with the acceptance, release, etc. of assets and properties in accordance with FR.. The Director of the National Center for Non-Destructive Testing has informed that necessary measures have been taken as per Annexure 01.	company. Despite this setback, NCNCT sought a quick solution and sent the machine to AEB's RPTSD for further testing. RPTSD detected an electronic fault but was unable to repair it. The machine was then sent to the Arthur C. Clarke Institute, where their expertise successfully resolved the problem. Through their persistence and resourcefulness, NCNCT's initial hurdle was overcome and the x-ray machine is now functioning properly. In relation to the difficult situation in the country, above decisions had to be made. However, in the future, the approved methods regarding the acceptance of assets and properties will be followed according to the financial regulations.
(ඇ)	This will be done in the year 2022	A policy is currently being prepared to follow the correct methodology
(ඈ)	In the future, arrangements will be made to forward the financial statements to the relevant institutions as per the circular	But, the financial statement accounts related to 2022, have been submitted to the Ministry by February 28, 2023, and then submitted by the Ministry to the Government Audit Division. Since a Board had not been appointed by that time, these financial statements were submitted directly to the Ministry's Secretary. After the appointment of the Board of Directors in April 2023, it was submitted to the board.
(ඈ)	Assets will be assessed in the coming year as per the relevant circular	Necessary activities are currently being done.
(ඉ)	The year 2021 was the time when the COVID-19 epidemic situation was severe. For the non-destructive testing services done at that time, priority was given to bring in experienced teams for the same type of inspections that can be brought for inspection with minimum travel cost and can reach the relevant place in minimum time. At a time when inter-provincial traffic was prohibited, we had to recruit only officers residing in the Western Province. In such cases, the same teams were involved in non-destructive testing services.	The issue is resolved now
	According to 8.1.1 of the quality manual, a qualified verification officer (Verifier) who should be present for NDT tests has signed all the relevant test reports and certified them as correct. According to the board paper 2007-06-72, the inspection team is as follows. "One inspection group consists of executive staff - 01, technical staff -01, minor staff - 01 or executive staff - 02, technical staff - 01 or executive staff - 02 and minor staff -01". In this board paper, it is not	As per the present requirement, the composition of the inspection teams will be changed and steps will be taken to get the approval of the Board of Directors.

	defined that the inspection team should be Inspector, Operator, Helper. Also, according to the quality manual, we do not have enough staff for non-destructive testing services to follow its rules, and the above services are maintained with limited staff.	
	The Director of the National Center for Non-Destructive Testing has informed that necessary measures have been taken as per Annexure 01.	NCNDT has taken several proactive steps to solve the problems identified in the laboratories. Accordingly, steps have been taken to prepare a comprehensive procedure for the maintenance of laboratory equipment, regular inspection, maintenance and keeping of all equipment and machinery in optimum condition. Procedures were also developed to monitor the safety of equipment and machinery in issuing and receiving back to laboratories, keeping proper logs, and preventing misplacement and damage to equipment. In addition to issuing equipment and machinery from laboratories and receiving them back to laboratories, keeping proper log records, developing procedures to monitor the safety of equipment to prevent misplacement and damage to equipment and to act in accordance with the quality manual related to laboratory equipment. Qualified and responsible persons were appointed as Laboratory Officers (OICs), Laboratory Technical Assistants (TAs) and Laboratory Assistants in respective laboratories. As a result of these actions, the laboratories are now operated under proper quality control, ensuring smooth operations and increasing the efficiency of day-to-day operations.
2.2.3		The powers, duties and functions of the Board have been acted upon so far.
2.2.4		The relevant staff will always be informed and given instructions regarding working in accordance with the procurement rules and regulations..
(e)	(This error is not presented in the draft Auditor General's report) Appraisal report for this land (ENR/B/AB/AEB/2021/19/AQ-04 enquiry, Annexure 12 mentioned) The amount approved by the Cabinet of Ministers for the purchase of the land was Rs.84 million in addition to stamp duty, NTB, 7 million rupees had to be spent on assessment and other charges. Accordingly, the	Regarding the contract variation, the technical committee has submitted a detailed report with the money spent beyond the approved limit and related technical matters to the line ministry. It will be forwarded to the Cabinet for approval with the recommendations of the Ministry Procurement Committee.

	total amount for land purchases was 90.7 million rupees.	
(ဇ)	This money was received for the procurement activities planned for the year 2020-2021 and some procurement activities could not be completed due to the change in the foreign exchange policy and excessive increase in prices.	This money was received for the procurement activities planned for the year 2020-2021 and some procurement activities could not be completed due to the change in the foreign exchange policy and excessive increase in prices.
(ဇ)		In the Negombo Hospital, which was constructed in 2015, the need for this equipment was strongly felt during a long-term inspection conducted by our institution, and the Director at that time was directed to purchase this equipment. Still, after a few years, it was possible to purchase this equipment. This (Concrete core drilling) device removes a part of the required amount of a concrete layer and the removed part is compressed by a crusher and the compressive strength of the removed part is measured, but as the SLAEB doesn't have that device, it is not possible to carry out that test at present. There was a need to buy a compressor, but due to the economic instability in the country since 2019, it was not possible to reserve money, so it was not possible to buy the equipment. At the request of a private company in 2022, we used this device to make several holes in a concrete block and at the end of this year, a foreign training agent is going to visit the SLAEB for training on concrete tests (by the International Atomic Energy Authority) and intends to get his support for the use of this device.
2.3 (ဇ)	These cobalt-60 pencils are highly radioactive and cannot be physically observed up close. Anyone who gets that close will die within seconds. The only thing that can be done is that these radioactive pencils can be observed from above the water pool after it is placed on the respective shelf in the water pool. These cobalt 60 radioactive pencils will be inventoried on the basis of serial numbers.	Inventory will be done in future.
(ဇ)	The qualification and certification of NDT personnel is based on the following four basic factors: 1. Training requirements (NDT training) 2. NDT Qualification 3. Relevant NDT experience (Industrial Experience) 4. Vision requirement	As NCNDT Institute, we are actively engaged in providing various services like conducting NDT Training Courses, NDT Certification and NDT Inspection. However, it is important to recognize that we are not a regulatory body. Therefore, if we intend to implement any regulations or policies, we should consider them carefully and align them with the directives and guidelines laid down by an appropriate regulatory authority.

	There are many schemes for the qualification and certification of NDT personnel, the most prominent of which are ISO 9712 and SNT-TC-1A. ISO 9712 is the International Organization for Standardization's recognized international standard for NDT. SNT-TC-1A is published as a recommended practice by the American Society for Non-Destructive Testing (ASNT). Various qualification and certification programs can be categorized based on employer base or central. SNT-TC-1A is a recommended practice that provides guidelines for establishing written practices. Using this, any institution / private company can prepare a basic document / written practice necessary for the qualification and certification of NDT personnel there. This written practice will define the experience, examination requirements, and training requirements for each NDT level (NDT level) expected by the company/employer. As mentioned earlier, SNT-TC-1A is a company or employer based scheme. That is, if any candidate wishes to join another company, the validity of the certificate obtained in the institution where he is currently working is only valid if it meets the requirements of the institution he intends to go to and that institution accepts the certificate. SNT-TC-1A is a training without a strict set of rules, and the training or tests provided according to the proponent's written practice can only be obtained or not obtained if the person or organization coming to obtain the service agrees. Furthermore, SNT-TC-1A sets out the guidelines and allows the employer to make changes where these are not appropriate or have special requirements. The employer should be responsible for running his own service. Therefore, the employer should use the flexibility at his discretion for the benefit of his organization. But the scheme should not be used illegally in any way. Therefore, according to the world standard, there is no need for regulation for these SNT-TC-1A training institutes. ISO 9712 is specified as a standard and does not require written practice. Requirements for responsibilities, experience, training and examination should be documented in accordance with the requirements of the ISO standard. ISO 9712 is a central certification scheme. According to ISO 9712, the examination is conducted by an organization independent of the EMPLOYER. The training, education, experience requirements	
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	are aligned to a standard and therefore the certificate is valid even if there is a change in the workplace. Individuals qualified to administer this certification procedure by their country's certification body in relation to ISO 9712. Likewise, a qualified institution can be authorized to conduct examinations and carry out training activities. And ISO 9712 sets the requirements for the third-party assessment scheme, which means that the individual certification body must be accredited under the ISO 17024 quality management system (ISO/IEC 17024:2012, Conformity assessment - General requirements for bodies operating certification of persons). In Sri Lanka this process is done by NCBNDT. Exams and training related to ISO 9712 in the country are conducted only by the training department of NCNDT and the examination committee belonging to NCBNDT and in maintaining the accreditation of NCBNDT internationally and locally, the same activities are also done in these departments. Sri Lanka Accreditation Board (SLAB) has accredited NCBNDT since 2013 in accordance with ISO/IEC 17024:2012 "Conformity Assessment — General Requirements for Individual Certification Bodies" quality management system. NCBNDT works as a registered organization under the Multilateral Recognition Agreement of the International Committee for NDT-ICNDT MRA 2 (Personnel Certification Bodies Registered under the International Committee for NDT-ICNDT MRA 2) and still only a small number of 20 countries have met the qualifications in the world. Also the training division of NCNDT is also a registered training authorized division of Tertiary and Vocational Education Commission. Therefore NCBNDT operates a recognized local mechanism for NDT training and certification process as per ISO 9712 scheme. The people who have obtained this NDT certificate can participate in NDT service provision testing and training activities with related responsibilities according to that NDT level. The validity of the NDT INSPECTION reports given after NDT services depends only on the qualifications of the persons to whom it is carried out and there is no restriction on any person or organization to carry out the NDT services after meeting the necessary qualifications, so far as it is regulated. There is no known practical method in the world. Further, it depends solely on the credibility and qualifications between the	
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	organizations or individuals providing the service and receiving the service.	
(ඇ)	Necessary work will be done by discussing this with the Urban Development Authority and the National Apprenticeship Board. Regarding this construction project, the final report of the special audit conducted by the Auditor General's Department will be received and accordingly, the final answer will be given in the near future.	181 million has been paid for the Malabe land and at that time, since the tax rent related to the unused period of the old land has not been recovered, in this regard, written notices have been sent to the Urban Development Authority as well as the Road Development Authority to get the compensation due to the board. . In this regard, discussions have been held with the officials of the relevant institutions under the leadership of the officials of the relevant ministries, but no clear response has been received so far. In this regard, the letter dated 30.01.2023 has been forwarded to the Ministry, requesting to convene a discussion with the Secretaries of the respective Ministries as per the instructions of the Secretary of the Line Ministry. Regarding this issue, it was also informed in the Parliamentary Sectoral Oversight Committee meeting held on May 8, 2023, and according to the instructions given to refer the issue to the committee, a related report has been forwarded to the committee.
(ඈ)	Efforts are made to minimize the difference between budget provision and actual expenditure.	Efforts are made to minimize the difference between budget provision and actual expenditure.



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Chairman
Sri Lanka Atomic Energy Board.