Australian Government

Ansto

Nuclear-based science benefiting all Australians

Annual Report 2009-2010

ANSTO

Annual Report 2009-2010

Chairman's Letter

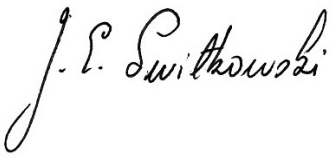
24 September 2010

Senator the Hon Kim Carr
Minister for Innovation, Industry, Science and Research
Parliament House
CANBERRA ACT 2601

Dear Minister

In accordance with Section 9 of the *Commonwealth Authorities and Companies Act 1997 (CAC Act)*, I am pleased to present the Annual Report of the Australian Nuclear Science and Technology Organisation (ANSTO) for the period 1 July 2009 to 30 June 2010. This Annual Report includes a Report of Research and Operations, the content and preparation of which the Board is responsible for under Section 9 of the *CAC Act*.

Yours sincerely



Dr Ziggy Switkowski
Chairman

Contents

About ANSTO

ANSTO is Australia's national nuclear science and technology organisation and represents a concentration of Australia's best nuclear science capabilities. It is part of the Australian Government portfolio of Innovation, Industry, Science and Research.

ANSTO provides policy advice to the Australian Government in relation to all matters within the ambit of nuclear science and technology. In addition, ANSTO maintains critical capabilities to support government in undertaking its regional and international role and obligations in relation to nuclear science and technology.

Research and innovation are central to ANSTO's mission and mandate. Key outcomes include: research publications; the securing of intellectual property; training of research students; software development; engineering designs and demonstrators and engineering services; pilot plants and industrial consultancy for clients. We also license technology that arises from our innovation activities.

ANSTO provides local and global partners with access to its research and innovation infrastructure to leverage their own research and innovation activities. This collaboration considerably expands the opportunity for the development of locally and globally significant research that will benefit all.

ANSTO manufactures products and provides specialised services for customers. These commercial activities draw on ANSTO's scientists and engineers to develop new products and manufacturing approaches and enhance product quality. Our businesses are focussed on the health of Australians, particularly in the application of radioisotopes for imaging and therapy; the application of mineral processing for naturally occurring radioactive materials; safe treatment and disposition of nuclear waste; and specialised irradiation services.

ANSTO is the custodian of landmark infrastructure deployed in the national interest. ANSTO operates Australia's OPAL multipurpose research reactor. Research reactors are essentially 'neutron factories'. The neutrons are used for scientific research, the production of radioisotopes used in medicine, activating targets (such as mineral samples for research) and modifying the conductivity of single crystal silicon used for microelectonics.

Complementing the OPAL reactor are particle accelerators which are part of the essential toolkit used for precisely dating geological samples, studying the history of climate variability, and materials research, among other applications. ANSTO is a leader in pilot plant design, operation and management for the mining industry. These plants are a significant factor in transferring laboratory results to industry and providing industry with greater confidence prior to full-scale plant development.

ANSTO's main campus is located 40 km south west of Sydney's central business district, occupies 70 hectares and is surrounded by a 1.6 km buffer zone.

The organisation's functions are prescribed by the *Australian Nuclear Science and Technology Organisation Act 1987 (ANSTO Act)* and are translated into action through its strategic and annual planning process.

ANSTO's vision

To be recognised as an international centre of excellence in nuclear science and technology for the benefit of Australia.

ANSTO's mission

- Support the development and implementation of government policies and initiatives in nuclear and related areas, domestically and internationally
- Operate nuclear science and technology based facilities, for the benefit of industry and the Australian and international research community
- Undertake research that will advance the application of nuclear science and technology
- Apply nuclear science, techniques and expertise to address Australia's environmental challenges and increase the competitiveness of Australian industry
- Manufacture and advance the use of radiopharmaceuticals which will improve the health of Australians.

ANSTO's strategic directions 2005-2010

ANSTO's strategic directions form the basis for the organisation's research and operations:

- Deliver excellence in nuclear science and technology
- Focus our capabilities to support issues of national importance
- Maximise return on investment in expertise and specialised facilities
- Promote understanding of the benefits of nuclear science and technology.

Responsible Minister

Minister for Innovation, Industry, Science and Research, Senator the Hon. Kim Carr.

Statement of compliance

This report is written with reference to the Commonwealth Authorities and Companies (Report of Operations) Orders 2005.

Members of the Board

Dr Ziggy (Zygmunt) Switkowski (Chair)
BSc (Hons), PhD, FAICD
Company Director, former Chief Executive, Scientist
Chair 1 March 2007 - 31 December 2010
Appointed 1 January 2006
Term concludes 31 December 2010

Professor David Copolov
MBBS, PhD, FRACP, FRANZCP, MPM, DPM
Pro Vice-Chancellor, Office of the Vice Chancellor and Professor of Psychiatry, Monash University
Appointed 1 May 2008
Term concludes 30 April 2012

Professor Paul Greenfield AO
BE(Hons), B.Econ, PhD, FTSE, FIEAust, FIChE, FAICD, CPEng, CEng, CSci
Vice-Chancellor University of Queensland, Academic, Engineer
Appointed 25 July 2007
Reappointed 25 July 2010
Term concludes 24 July 2014

Professor John Hearn
BSc, MSc, PhD
Deputy Vice-Chancellor (International) and Professor of Physiology
University of Sydney
Appointed 1 May 2008
Term concludes 30 April 2012

Ms Christine McLoughlin
BA, LLB(Hons)
Company Director, former Financial Services Executive, Lawyer and Businesswoman
Appointed 13 March 2009
Term concludes 12 March 2013

Ms Erica Smyth
MSc, FAICD
Scientist and Businesswoman
Appointed 12 December 2008
Term concludes 11 December 2012

Mr Bill (William) Scales AO
BEc, FIPPA, FAICD
Company Director, former Senior Public Servant and Chief Executive, Economist
Appointed 1 July 2007
Term concluded 30 June 2010

Professor Andrew Scott
MBBS (Hons), MD, FRACP, DDU
Director, Ludwig Institute for Cancer Research, Nuclear Medicine Physician, Scientist, Academic
Appointed 26 September 2007
Term concludes 25 September 2011

Dr Adi (Adrian) Paterson
BSc, PhD
Chief Executive Officer
Appointed 1 March 2009
Term concludes 28 February 2014

Dr Susan Pond AM
MBBS (Hons), MD, DSc, FTSE, FRACP
Adjunct Professor, University of Sydney, medicine, science, business
Appointed 1 July 2010
Term concludes 30 June 2014

Pictured from left to right, Professor John Hearn, Professor David Copolov, Ms Christine McLoughlin, Dr Ziggy (Zygmunt) Switkowski, Professor Paul Greenfield, Dr Adi (Adrian) Paterson, Ms Erica Smyth, Mr Bill (William) Scales and Professor Andrew Scott.

Not present
Dr Susan Pond

ANSTO Top Management Team

Dr Adi Paterson
Chief Executive Officer

Mr Peter Arambatzis
Chief Financial Officer (part year from 3 May 2010)

Mr Geoffrey D Askew AM
Chief Security Officer (part year)

Professor Richard Banati
Distinguished Researcher Fellow and ANSTO LifeSciences

Mr Michael Beckett
Chief Information Officer

Dr Ron Cameron
Executive General Manager, Strategy, Government and International Relations (part year)

Ms Stephanie Cole
Legal Counsel

Mr Doug Cubbin
Executive General Manager for Business and Enterprise and the Chief Financial Officer (part year to 2 May 2010)

Dr Paul Di Pietro
Manager, Campus Services (part year)

Professor John Dodson
Head, Institute for Environmental Research

Professor Lyndon Edwards
Head, Institute of Materials Engineering

Ms Margaret Fittler
Manager, Human Resources

Dr Marie-Claude Gregoire
ANSTO LifeSciences

Dr Ivan Greguric
ANSTO LifeSciences

Mr Hefin Griffiths
Manager, Quality Safety Environment and Radiation Protection

Mr Andrew Humpherson
General Manager, Government and Public Affairs

Dr Ron Hutchings
Acting Executive General Manager, Strategy, Government and International Relations

Mr Shaun Jenkinson
General Manager, ANSTO Health (part year)

Mr Patrick Jones
Manager, Finance and Procurement

Ms Tanya Karma
Manager, Silicon Irradiation

Mr Con Lyras
General Manager, Engineering and Capital Programs (previously Engineering and Technical Services)

Amelia McArdle
General Manager Human Resources (part year)

Back row, left to right, Professor Richard Banati, Hefin Griffiths, Dr Paul Di Pietro, Professor Lyndon Edwards, Con Lyras, Peter Arambatzis, Barry Munns,, Michael Beckett, Dr Ron Weiner, Geoffrey D Askew AM, Dr Ivan Greguric, Margaret Fittler. Front row, left to right, Professor John Dodson, Dr Ron Hutchings, Dr Robert Robinson, Dr Greg Storr, Dr Adi Paterson, Dr Marie-Claude Gregoire, Stephanie Cole, Patrick Jones and Rosanne Robinson.

Not present
Dr Ron Cameron, Doug Cubbin, Andrew Humpherson, Tanya Karma, Dr Bob Ring, Shaun Jenkinson, Amelia McArdle.

Mr Barry Munns
Chief Internal Audit & Risk Assurance

Dr Bob Ring
General Manager, ANSTO Minerals

Dr Robert Robinson
Head, The Bragg Institute

Ms Rosanne Robinson
General Manager, Business Development

Dr Greg Storr
General Manager, Nuclear Operations
(previously Reactor Operations)

Dr Ron Weiner
ANSTO LifeSciences

Chairman's Report

Welcome to ANSTO's Annual Report for 2009-2010. This year has seen good progress across a number of areas, none more important than the strengthening of the leadership team and the lifting of our expectations as a result. It is our goal to be a valued national institute where our people are motivated, ambitious and highly respected and help our organisation to achieve a world class reputation. The environment is now set for this.

Government support for ANSTO has been strong, reflecting the confidence the Minister for Innovation, Industry, Science and Research, Senator the Hon. Kim Carr, and the Government in general, places in the organisation and how we go about delivering our mission. The quality of ANSTO's submissions has won increased support from Government.

Molybdenum (Mo-99) is the most important reactor produced radioisotope for medicine globally and in Australia. Our Mo-99 plant has been in full production for most of the year – a success story for the organisation. Despite some initial production difficulties, the organisation is now powering ahead and expects to expand its critical exports of Mo-99 production in coming years.

ANSTO has made commendable progress in becoming more outward looking. This is evident by the key new agreements signed and strategic partnerships formed over the past year. These are vital for ANSTO's future and will set the organisation up for achieving major and important research outcomes.

Australia will see an increase in the demand for nuclear-capable people in the next five years and in turn an increased need for training in nuclear engineering and nuclear chemistry. Therefore partnerships with universities will be increasingly important for ANSTO. We are already working with a number of universities to include nuclear science as part of their existing graduate and undergraduate programs.

OPAL's 265 operating days over 2009-2010 is a landmark achievement, putting it into the top three most reliable research reactors globally. I would like to congratulate everyone involved in accomplishing this exceptional result, especially given the predictable range of technical challenges that a state-of-the-art facility confronts its operators. World leading performance metrics are now in place for the year ahead.

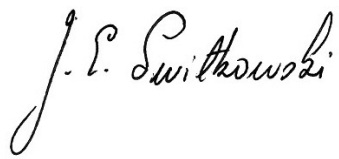
ANSTO continues to provide valued policy advice to government across a range of issues and has key national facilities and

expertise that underpin Australia's role in nuclear non-proliferation. ANSTO is a key national strategic resource which is becoming more important as the use of nuclear power increases globally and uranium is distributed to more facilities in the Asia-Pacific region.

I would like to commend Dr Paterson and ANSTO's people for their outstanding achievements this year and thank them for their continuing hard work. Dr Paterson's leadership has seen ANSTO become a more efficient, modern and results orientated organisation with growing expectations and confidence in itself.

I would also like to thank my fellow Board members for their commitment and enthusiasm over the past 12 months and for their thoughtful engagement with the various specialised issues that are a feature of any nuclear facility. In working with management and at Board meetings, we always finish intellectually stimulated and often exhausted. It is a pleasure to work alongside such a dedicated group of professionals.

We look forward to the coming year and to continuing our mandate of undertaking important research for the benefit of all Australians.



Dr Zygmunt (Ziggy) Switkowski
Chairman

Chief Executive Officer's Report

This year has seen ANSTO developing and delivering on solid plans and implementing changes that are resulting in meaningful and measurable outcomes. ANSTO is a more pragmatic, effective, delivery-orientated organisation responding to the needs of a fast changing world at the end of this fiscal period.

As our team moves forward in the same cohesive direction we reflect that we are indeed 'One ANSTO'. This year we have focused on getting staff and divisions to work more effectively together in order to achieve better outcomes. 'One ANSTO' is important because the work that we do is inherently multi-dimensional – but ultimately all about nuclear science and technology for Australia. As we mobilise the power of the greater ANSTO we will deliver on our true mandate and a sustainable way of doing business.

In the areas of research and innovation we have made changes and put plans in place to ensure ANSTO's research now focuses on 'the big questions'; that we conduct research in an organised and structured manner; and that we can more effectively identify and measure our research outcomes and innovation.

Another major focus of planning and change this year has been in business and enterprise. For business development to be sustainable, it must be focused. In 2009-2010 this has been my aim; ensuring that ANSTO business functions are operating with a team approach and all relevant divisions working together to drive for success.

The modern world of science and technology is a collaborative partnership game. This year alone we have established new formal partnerships with the Australian National University; Curtin University of Technology; University of Sydney and re-opened discussions with the European Organisation for Nuclear Research, CERN, home of the world's largest physics project the Large Hadron Collider. We have renewed and re-vitalised long established collaboration with the French Atomic Energy Commission and the Korea Atomic Energy Research Institute. This adds to our already existing complementary relationships with key organisations such as the Australian Synchrotron where there is a natural crossover in our science.

Another exciting development is ANSTO's Centre for Accelerator Science. Officially developing over the next four years, the Centre will see two new accelerators built, placing ANSTO at the forefront of this cutting edge technology. Accelerators

are crucial pieces of equipment used to identify elements at the atomic level and among other things, to radiocarbon date historical artefacts.

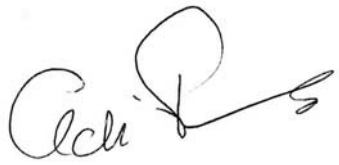
ANSTO also had a fantastic breakthrough in the US with an ANSTO developed Hot Isostatic Pressing technology, used to produce Synroc®, which the US Department of Energy selected as their preferred technology for treating high-level wastes known as the Idaho Calcines. In this respect in March I was in Washington attending the Nuclear Security Summit where the securing of vulnerable nuclear materials around the globe was endorsed, an endorsement ANSTO strongly supports.

ANSTO is extremely proud of the numerous achievements made by staff throughout the year including: Professor John Dodson for winning a major educational publishing award; Dr Andrew Smith for being nominated for a Eureka Prizes People's Choice Awards; Dr Guan Heng Yeoh for being awarded the prestigious Brennan Medal by the UK's Institute of Chemical Engineers and Professor John Boldeman's ATSE Clunies Ross Lifetime Contribution Award.

The public acknowledgement of these achievements not only assists in underpinning the reputation of ANSTO but is testimony to the high calibre of our staff. Celebrating our success spurs us on to achieve even more, not just for ourselves but as a tribute to our national contribution within the Australian science and technology landscape.

I would like to thank all ANSTO staff for their continued dedication and hard work over the past year as we set ourselves up for exciting times ahead. In particular, I would like to acknowledge our employees continuing commitment and belief in implementing best practice safety standards at ANSTO. A number of improvements in incident reporting, closing-out of investigations and better tracking of actions are evidence of our staff's appreciation of the importance of a strong safety culture which above all else never takes a back seat.

Finally I would like to recognise the ANSTO Board for their committed support, good governance and promotion of the role and mandate of ANSTO.



Dr Adrian (Adi) Paterson
Chief Executive Officer

2009-2010 highlights

Centre for Accelerator Science

In May 2009, ANSTO was allocated $25 million of new Federal Government project funding for a Centre for Accelerator Science at ANSTO.

Accelerators are used to analyse materials – often using extremely small samples – to determine their elemental composition and age. For example, accelerators can be used to measure the amount of carbon pollution in the air and to date historical artefacts.

ANSTO will develop the Centre over the next four years. When complete, the state-of-the-art facilities will feature two new accelerators – a low energy multi-isotope accelerator mass spectrometer and a new medium-energy tandem accelerator.

These join ANSTO's existing two accelerators, the Australian National Tandem Accelerator for Applied Research (ANTARES) and the Small Tandem Accelerator for Applied Research (STAR), both of which are used in ion beam analysis and accelerator mass spectrometry.

The Centre will act as a magnet for Australian and overseas scientists from nearly every scientific field, working in areas such as radiocarbon dating, and environmental studies.

Neutron Beam Expansion Project

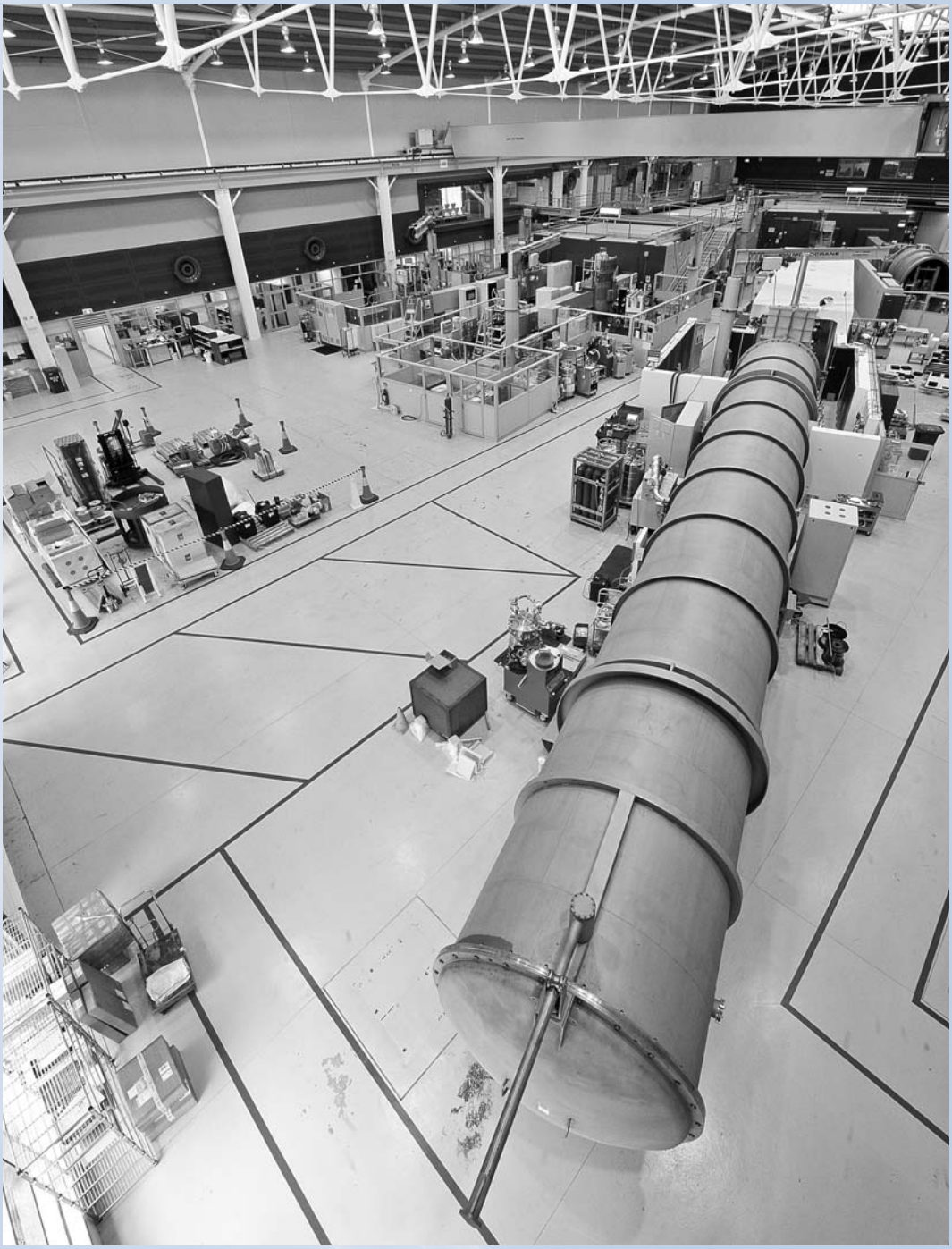
In May 2009, ANSTO was allocated $37 million of new Federal Government project funding for new guides and instrumentation at OPAL.

The Neutron Beam Expansion Project is well underway, following extensive stakeholder consultation that began in August with a two-day scoping workshop involving 80 national and international researchers made up of existing ANSTO instrument users.

A report covering the workshop outcomes was published and recommended the need for a time-of-flight small-angle neutron scattering instrument (Bilby); a neutron radiography instrument; a tomography instrument and imaging station (Dingo); a back-scattering spectrometer (Emu) and a sample-environment apparatus including a cryomagnet/dilution refrigerator and a high-end gas handling system.

This is in addition to the portfolio of existing capital and commercial projects including a beryllium-filter option on Taipan (a thermal triple-axis spectrometer) and construction of the following instruments:

- Pelican - a time-of-flight spectrometer which can be used to study proteins, polymers, polycrystalline, glassy and liquid samples and observe ion diffusion through membranes biological samples, the dynamics of protein structures and



ANSTO's neutron beam hall will be expanded to include several new neutron beam instruments and associated equipment.

diffusion of gases and water through magnetic materials, cement, gas storage media, soils and rocks.

- Sika - a cold-neutron three-axis spectrometer which will be used to achieve a basic understanding of how materials respond to changes in temperature or to an applied magnetic field. Examples of basic scientific interest are systems which undergo a 'quantum-phase transition' at extremely low temperatures. Such phenomena are observed in some magnetic materials when a magnetic field is used to induce a transition to a new phase. Sika may also be used to confirm the physics used to explain the behaviour of materials such as magnetic-field driven actuator and high-temperature superconductors.
- Kookaburra - is an ultra-small-angle scattering instrument used to study the size and shape of objects of size 10 μm and below by diffraction. This is useful for studies of pores and cracks in rocks, cement or engineering materials. It is also very useful for large biological or polymer molecules, macromolecular assemblies and mesoscopic magnetic particles.

  The range of interest includes bacteria, clays, coals, colloids, foams, food, gels, granular materials, hydrogels, membranes, minerals and mineral processing, nanotechnology, phase transitions, polymer blends, powders, proteins, rocks, thin metallic organic films, viruses.

This year ANSTO also began design of a new Bragg Institute building extension. The extension will provide laboratories and workshops for 150 people, including increasing numbers of visiting international scientists.

The OPAL reactor building will also be extended to better cater for increased uses of the reactor, including increased radiopharmaceutical production in part to assist in alleviating the world shortage of molybdenum.

Hot Isostatic Pressing selected by US Government

In January, the US Department of Energy (USDOE) selected Hot Isostatic Pressing (HIP), a key component of ANSTO's waste treatment technology, Synroc®, as the preferred technology for treating high-level waste calcine located in Idaho in the US.

Using HIP, volumes can be reduced by up to 50 per cent, depending on the form that is chosen, creating savings to the transport and disposal costs worth billions of dollars.

HIP is the process that is used to help produce synthetic materials such as Synroc®, replicating the stability and durability of minerals found in nature.

The public announcement was made at the same time as the Nuclear Security Summit with world leaders in Washington.

ANSTO's waste treatment technology, Synroc®.

External revenue outcomes

Despite the presence of the Global Financial Crisis, ANSTO delivered an external revenue outcome of $79.8 million (including Education Investment Fund Project funding of $20 million) against a forecast of $56.6 million.

Of this total revenue, earnings by ANSTO business and commercial groups amounted to $52.1 million in 2009-2010. This was up $8.59 million, being a 19.7 per cent increase over the previous year.

Within this business and commercial revenue, ANSTO Health's earnings were $22.62 million in 2009-2010, up $1.25 million from the previous year and ANSTO Minerals, revenue earning was again outstanding with total earnings of $10.52 million, a slight increase on the 51 per cent increase achieved in 2008-2009.

2009-2010 report of activities

(Report of research and operations)

Australia's nuclear experts

ANSTO's international activities

In mid-September, ANSTO staff formed part of an Australian delegation attending the International Atomic Energy Agency (IAEA) Board of Governors and the IAEA General Conference in Vienna, Austria. The Board meeting concentrated on developments in relation to Iran and Syria. ANSTO prepared and delivered interventions on nuclear technology and applications, nuclear security and nuclear safety. At the General Conference, ANSTO played leading roles in the negotiation of resolutions on all these areas, as well as technical co-operation. ANSTO also delivered an invited presentation on the long-term management of disused radioactive sources to the Senior Regulators' Forum.

In the lead-up to the General Conference, Australia coordinated the preparation of the so-called 'omnibus safety resolution' - measures to strengthen international cooperation in nuclear, radiation, transport and waste safety. The resolution was based upon a well-developed cooperative effort between ANSTO, Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) and the Department of Foreign Affairs and Trade (DFAT).

In early November, ANSTO was an expert consultant to the IAEA review of the International Decommissioning Network in Vienna. The purpose of the Network is to promote world-wide sharing of information regarding safe, economic and timely decommissioning of nuclear facilities among developed and developing countries. The team drew on ANSTO's experience in decommissioning and decommissioning planning of a number of facilities at ANSTO.

In early December, ANSTO led an IAEA workshop for countries having expressed an interest in launching a nuclear power program. The workshop, which took place in the United Arab Emirates, aimed to raise awareness of international nuclear liability law and to promote membership of the international regime. The workshop introduced a range of countries from around the world (including a number from South-East Asia) to the international nuclear liability regime and provided guidance to the drafting of national legislation.

In mid-April, ANSTO's Chief Executive Officer, Dr Adi Paterson, was in Washington during the Washington Nuclear Security Summit attended by world leaders. ANSTO strongly supports moves endorsed by the Summit to secure vulnerable nuclear materials around the globe.

Dr Paterson was in Washington to launch a new initiative to treat difficult nuclear wastes. The keynote Austrade event, held at the Australian Embassy, was hosted by the Australian Ambassador to the U.S.A. the Hon. Kim Beazley on the margins of the Nuclear Security Summit. The event built on the US-DOE announcement in

ANSTO's Chief Executive Officer, Dr Adi Paterson, was in Washington during the Nuclear Security Summit attended by world leaders in mid-April.

December that it had selected ANSTO's HIP waste treatment technology as the preferred technology for treating high-level waste calcine located in Idaho in the US.

In May, ANSTO chaired the 10th Meeting of the IAEA International Expert Group on Nuclear Liability (INLEX) in Vienna. INLEX is a forum of expertise to explore and advise on issues related to nuclear liability; enhance global adherence by nuclear and non-nuclear states to an effective international nuclear liability regime; and to assist in the development and strengthening of national nuclear liability legal frameworks in IAEA Member States.

In the following week, ANSTO also chaired an Open-ended Meeting of Technical and Legal Experts for Sharing Information on the States' Implementation of the Code of Conduct on the Safety and Security of Radioactive Sources and its Supplementary Guidance on the Import and Export of Radioactive Sources. The purpose of the meeting was to promote a wide exchange of information on national implementation of the Code and Guidance, reviewing progress made within the last three years, and to review the Import-Export Guidance.

2009-2010 report of activities

Advice to government

ANSTO regularly provides advice to the Government on a wide range of issues through written advice, submissions and responses to specific enquiries; through hosting site visits for parliamentarians, and through input to formal and informal hearings, meetings and workshops. For example, in 2009-2010 ANSTO made submissions to the following parliamentary inquiries:

- The Senate Select Committee on Fuel and Energy. ANSTO provided a submission, entitled 'The Role of Nuclear in Enhancing Energy Security in Australia'.
- The House Standing Committee on Industry, Science and Innovation's inquiries into Australia's International Research Collaborations and Long-Term Meteorological Forecasting in Australia.
- The Joint Standing Committee on Foreign Affairs and Trade's review of Australia's Relationship with the Countries of Africa.
- The Senate Standing Committee on Legal and Constitutional Affairs' inquiry into the *National Radioactive Waste Management Bill 2010*.

ANSTO also provided responses to a number of parliamentary questions on notice concerning the OPAL reactor and radiopharmaceutical production, and provided advice to Ministers on ANSTO's national and international collaborations, environmental research, radioisotope supply, the nuclear fuel cycle, and a range of other matters.

ANSTO continued commercial survey work in the vicinity of a former uranium processing factory at Hunters Hill in Sydney at the request of the NSW Government. ANSTO had no historic involvement with the Radium Hill Company, which used the site from 1911 to extract radium from uranium ore for medical and other purposes. In June 2009, test results were provided to the NSW Department of Environment and Climate Change and Water in two reports, which were released publicly by the NSW Government in July.

Health and life sciences research

ANSTO LifeSciences

In February, a new and innovative group called ANSTO LifeSciences replaced the Radiopharmaceutical Research Institute (RRI).

ANSTO LifeSciences was formed to ensure ANSTO has a more complete approach to life sciences, which includes researching properties of materials with organic origin such as proteins and membranes and complex living systems.

Radiopharmaceutical and health research remains a priority area, but has been enhanced and complemented by biological research, which has broad applications in areas such as bioengineering and structural biology, using the specific opportunities of nuclear technologies.

The group has four priority areas:

- Research and innovation
- Imaging
- Radionuclide development
- Biology

This new group will enhance ANSTO's current collaborations, allowing partnerships with leading researchers working in priority research areas, such as structural biology and soft matter research, food science and nutrition.

ANSTO LifeSciences will also strengthen research as it integrates the complementary techniques of neutron beams and synchrotron radiation, a combination that gives Australian scientists a unique competitive edge.

Over the past year, ANSTO's Dr Agata Rekas and her colleagues, have undertaken ground-breaking research into the development, prevention and management of Parkinson's disease.

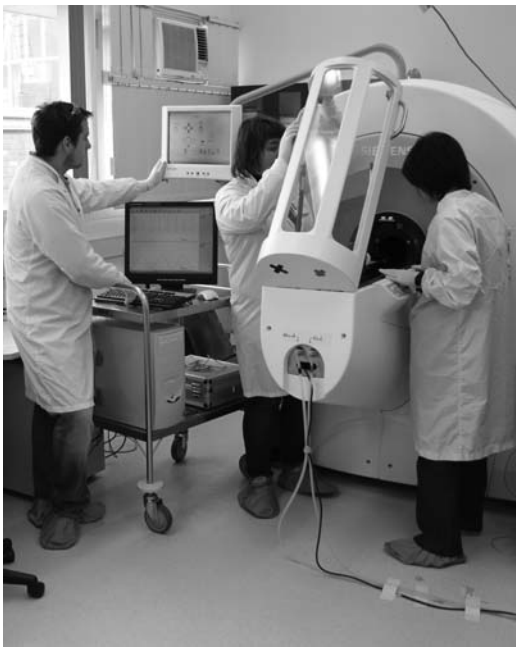
The team charged with delivering this is comprised of; Dr Ron Weiner, radionuclide development; Professor Richard Banati, integrated biology; Dr Marie-Claude Gregoire, imaging; and Dr Ivan Greguric, research and innovation.

Parkinson's research

ANSTO's Dr Agata Rekas and post doctoral fellow Dr Seok Il Yun made a ground-breaking discovery regarding the protein Alpha-Synuclein, which the pair found to play a role in the development of Parkinson's disease when it behaves abnormally. This abnormal behaviour can be stopped or even reversed using a man-

made polymer called a dendrimer, also known as a 'dense star' polymer.

In other research, Dr Rekas and her colleagues undertook a study into dopamine, a neurotransmitter produced by particular neurons the death of which is a significant consequence of brain diseases such as Parkinson's disease. The study used not only small-angle X-ray scattering to characterise shapes of dopamine oligomers, but also combined the results with molecular modelling simulations to elucidate the role of dopamine and its oligomeric system and their physiological effects (e.g. neurotoxicity). The research could potentially lead to new preventive and therapeutic agents for managing these diseases.



ANSTO scientists use a component of the ANSTO LifeSciences in vivo imaging platform, the Siemens INVEON microPET/CT camera, in their epilepsy research.

Mapping the early inflammation process that leads to epilepsy

ANSTO has undertaken imaging of the living brains of rodents using PET, a non-invasive, sensitive and quantitative imaging methodology, to investigate neurobiological mechanisms involved in the onset of neurological disease.

Research conducted by ANSTO's Dr Paul Callaghan, Dr Marie-Claude Gregoire and their colleagues focused on investigating the pre-symptomatic neuroinflammatory processes (called epileptogenesis) that lead to the development of chronic seizures, in an animal model of epilepsy.

The team used ANSTO's in-house developed radiotracer ([Fluorine-18]-PBR111) which is highly specific for receptors expressed in the inflammatory response within the brain. The radiotracer was used to map and quantify neuro-inflammation *in vivo* in rats. The data obtained was then correlated with a full *in vitro* assessment of the neuroinflamation pattern. This research will make it possible to follow-up the evolution of the inflammatory regions during the onset of the disease, and test new preventive therapies.

Effects of cannabinoids exposure in the adolescent brain

Cannabis use in teenagers can result in the development of drug dependence and has the potential to trigger psychosis and schizophrenia in vulnerable individuals. Aiming to investigate the

age-specific responses in the brain following cannabinoid exposure, ANSTO's Dr Victoria Dalton and her colleagues treated adolescent and adult rats with a synthetic cannabinoid for 14 days. They then compared the levels of the cannabinoid CB1 receptor (the main target of both synthetically produced cannabinoids and marijuana) by using *in vitro* autoradiography.

Dr Dalton found that adult rats adapted to excess cannabis exposure, but in adolescent rats this adaptation was smaller. This reduced adaptive response to cannabinoid drug treatment that was observed in adolescent rats may account in part for the behavioural effects, decreased response to other drugs and adverse psychological consequences following cannabinoid exposure during human adolescence.

Improving radiation dosimetry

ANSTO researchers are developing new microdosimeters to improve radiation-protection practices for air crews and astronauts, and for research in radiation biology and high-energy physics. Dr Mark Reinhard and his team compared radiation-transport simulations with experimental measurements obtained at CERN in Switzerland. Their results are improving the understanding of this complex mixed radiation-field used in the calibration and testing of dosimetry instrumentation. In addition, the team successfully completed a performance evaluation of a recently developed solid-state microdosimeter in Australia.

Developing novel and healthy food

ANSTO's research into complex food structures is providing new insights into diet-related diseases and developing novel foods. Food structures that were once considered too complex to be studied can now be investigated using ANSTO's neutron beam instruments. Work by ANSTO's Dr Elliot Gilbert and his colleagues focused on proteins and carbohydrates, looking not only at their structural components but also at their dynamics, using neutron and X-ray scattering. Demonstrating the capabilities of these techniques, the team have recently established a food science consortium collaborating with other research institutes and major food companies to investigate a range of food proteins.

New tracer promises clearer melanoma picture

ANSTO research published in The American Chemical Society's *Journal of Medicinal Chemistry* describes a new radiopharmaceutical tracer that gives clearer pictures of melanoma and could lead to improved disease treatment.

The development has resulted in the production of a series of novel [18F] fluoronicotinamide radiotracers, suitable for applications in imaging melanoma, using PET.

Environment and climate change

Key to Bronze Age origins found in China

ANSTO research conducted by Professor John Dodson in conjunction with scientists from the State Key Laboratory of Loess and Quaternary Geology in China has shown that an area of desert in north-western China was once a thriving Bronze Age manufacturing and agricultural site.

The new findings may help shed light on the origins and development of the earliest applications of Bronze Age technology.

Dating using ANSTO's precision techniques was used to identify the age of seeds, slag, copper ore and charcoal at two sites. The findings show the material is up to 3700 years old, but that smelting was still being carried out as recently as 1300 years ago. A photo of the study site was published in the November issue of the *Quaternary Research* journal.

IRMS++ mass spectrometer to be marketed worldwide

ANSTO has signed a Research and Collaboration agreement with Australian Scientific Instruments Pty Ltd (ASI) to develop and commercialise a state-of-the-art mass spectrometer – known as IRMS++ - invented by ANSTO scientists Dr Mike Hotchkis and Dr Chris Waring.

As one of its many applications, IRMS++ will be used by climate scientists to analyse ice samples much more rapidly and with greater resolution than at present. By enabling researchers to analyse liquid water directly, IRMS++ will revolutionise the way climate studies are done. IRMS++ is designed to measure the major elements in the air, water, earth and even particles in outer space – in a way that is much more convenient and cost effective than current methods.

IRMS++ uses a newly developed, patented microwave-driven plasma source to generate large signals directly from very small volumes of liquid or gas for measurement of their isotopic composition.

World-first pollution detector

An ANSTO collaboration with researchers at the universities of Basel and Bern in Switzerland is using two strategically-placed detectors to monitor atmospheric radon concentrations in the Swiss Alps.

The world-first detection system has been developed by ANSTO scientists for a three-year study investigating pollution transport from North Africa and Southern Europe over the Swiss Alps.

Radiocarbon dating the Tasmanian Huon pine

Research by ANSTO's Dr Quan Hua and his colleagues used radiocarbon dating to study tree rings from a Huon pine in Tasmania. Their research has shown that an abrupt climate change took place during the Last Deglaciation, ~20,000 – 11,600 calendar years before present (the early Younger Dryas period).

ANSTO's state-of-the-art mass spectrometer, known as IRMS++, invented by ANSTO scientists Dr Mike Hotchkis (pictured) and Dr Chris Waring will be used by climate scientists to analyse ice samples much more rapidly and with greater resolution than at present.

Radiocarbon dating is one of the most reliable and well-established methods for dating the past ~50,000 years. The radiocarbon age of a sample is determined by measuring its ^{14}C concentration and by assuming a constant level of atmospheric ^{14}C through time. However, not long after the establishment of the radiocarbon dating method (in the late 1940s), it was recognised that the ^{14}C concentration of the atmosphere in the past has not been constant. Dr Hua's research reports the high-precision, high-resolution atmospheric ^{14}C record from a Huon pine in Tasmania for improved radiocarbon calibration for the early Younger Dryas.

Jenolan cave-formation growth research

Studying cave environments and their formation provides a unique insight into our prehistoric climate and is an important step towards a quantitative interpretation of palaeo-climate. During ANSTO scientist Dr Chris Waring's field campaign with his colleagues to the Jenolan Caves in New South Wales, the team monitored air

gases and drip water through the year, using isotopic techniques for measurements. A detailed picture of seasonal cave formation emerged, illustrating growth patterns of stalactites and stalagmites. This research is helping to further the interpretation of palaeo-climate records.

Fresh groundwater lenses identified within salty groundwater

ANSTO is conducting studies into surface water resources in the Australian interior. At present such data is unreliable and scarce yet it is vital in supporting the vegetation along and near river channels and in maintaining a delicate ecological balance along waterholes (or 'billabongs').

ANSTO's Dr Dioni Cendon, with colleagues from ANSTO and the University of Wollongong, chemically analysed groundwater and surface water samples along the Cooper Creek floodplain near Ballera (south-west Queensland) to understand the regulation of the river system.

The research identified and described shallow groundwater of low salinity forming freshwater lenses up to one kilometre wide. These are located directly adjacent to major waterholes, and overlying the otherwise widespread saltier regional groundwater along the Cooper Creek floodplain.

This river catchment provides a non-disturbed analogue to understand how other presently wetter regions, particularly those in the Murray-Darling Basin, could evolve in the future if their climate and hydrology becomes even more variable.

ANSTO scientist Stuart Hankin (pictured with weather station) and his colleagues are conducting climate research at the Jenolan Caves in New South Wales. The research looks at growth patterns of stalactites and stalagmites providing a unique insight into our prehistoric climate.

Understanding long-range fine-particle pollution in Asia

Research conducted by ANSTO's Dr David Cohen and his colleagues is helping identify the sources and origins of fine-particle pollution across the Asian region.

Fine-particle pollution in Asia is generally very high when compared with internationally accepted health goals.

ANSTO scientist Dr David Cohen's research is helping identify the sources and origins of fine-particle pollution across the Asian region.

Therefore this unique data set collected for the region is of great interest for a range of environmental agencies in each of the member states, as well as non-government organisations.

Much of this fine-particle pollution is produced by motor vehicles, fossil-fuel combustion, industrial processes and even windblown soils from desert regions. As part of a long-term project in the Asian region, ANSTO has been using nuclear techniques not only to characterise fine-particle pollution, but also to quantify their sources and origins across 15 countries in the region.

The data will be used to correlate medical conditions related to lung disease and heart conditions with high pollution days, sources of air pollution and hospital admissions.

Materials

First-time in-situ insights into alloys

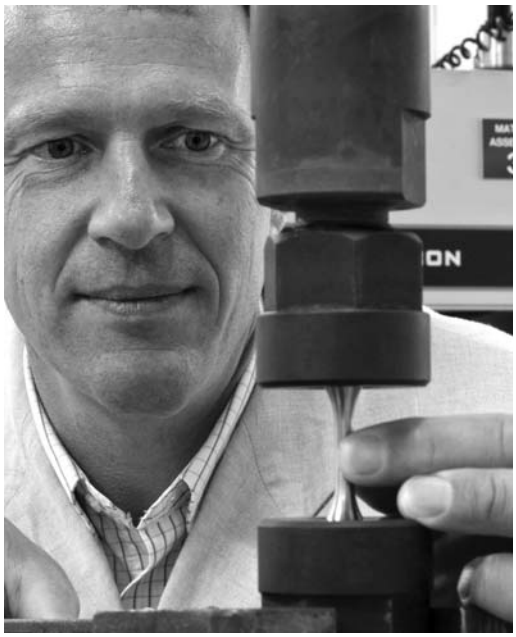
Research conducted by ANSTO and the University of Wollongong has produced the first micro-scale, in-situ, real-time observations of detailed structural changes (dynamic recrystallisation) within alloys when placed under extremely high temperatures and stress (thermomechanics).

The research has revealed unique information about materials used in the space and nuclear industries, which will aid the development of new materials and understanding of what conditions they can ultimately endure. The research, aimed at developing new methods of studying materials in-situ and in real-time, used synchrotron technology at the Argonne National Laboratory in the United States.

The results were presented at the Thermec' 2009 Conference in Berlin by ANSTO researcher Dr Klaus-Dieter Liss, and featured on the cover of the August edition of *Advanced Engineering Materials.*

New powdery future for wool and silk

New applications for wool and other natural fibres are expected from an international collaboration between ANSTO's Dr Suzanne Smith, Deakin University and Tufts University in the United States.



Dr Klaus-Dieter Liss' studies of plastic deformation of materials shows not only the beginning and end conditions of the materials but the full evolution of the microstructure.

The initiative, which received Australian Research Council Discovery Project funding, will explore how to turn natural fibres such as wool and silk into ultra-fine powders, potentially leading to a new range of products such as artificial skins, medical bandages and pollution absorbers.

The research is likely to have implications for industry sustainability, particularly in the case of wool, as developing new products will open up new markets.

Hot Isostatic Pressing

In December, the USDOE selected HIP – a key component of Synroc® waste treatment technology - as the preferred technology for treating high-level waste calcine located in Idaho in the US.

Using HIP, volumes can be reduced by up to 50 per cent – depending on the form that is chosen – delivering savings to the transport and disposal costs worth billions of dollars.

HIP is the process that is used to help produce synthetic waste encapsulation materials such as ANSTO Synroc®, replicating the stability and durability of minerals found in nature.

Understanding of materials that shrink on heating

ANSTO's Dr Vanessa Peterson and her colleagues undertook studies into how relevant materials shrink when they are heated. The team looked at the structure and dynamics of a metal organic framework compound using neutron scattering and modelling methods. These materials have applications in gas storage (including hydrogen and carbon dioxide for environmental applications), catalysis and gas separations. This flexibility leads to interesting and novel expansion properties, and as is increasingly found to shrink when exposed to heat. The team found a new mechanism in one material in which molecular groups twist locally, rather than collectively, offering a new way of achieving shrinkage when exposed to heat.

Understanding piezoelectric materials

ANSTO scientists are involved in research focused on piezoelectric materials in order to unravel the intertwining of the electrical and mechanical properties in these compounds. Putting an electric field across a piezoelectric causes it to change shape, which makes it useful as an actuator material. On the other hand, the materials are also used as mechanical sensors, as putting the material under strain causes it to generate an electric field. In the studies by Jacob Jones and his colleagues from the University of Florida, together with ANSTO's Dr Andrew Studer, used ANSTO's neutron-beam instrument Wombat, a high-intensity powder diffractometer, to measure the real-time response of piezoelectric materials to cyclic electric fields.

Observation of soft phonon modes in superionic copper selenide

In the first experimental data obtained with ANSTO's new triple-axis spectrometer, Taipan, ANSTO researcher Dr Sergey Danilkin and his colleagues measured a superionic conductor. These materials are superior in conductivity and therefore sought after in a number of technological applications such as solid-state capacitors, fuel cells and batteries. Their measurements of copper selenide contributed to the understanding of the structure and mechanism of these materials.

Analysis of neutron-scattering data using atomistic modelling methods

Much of the experimental data collected at facilities such as ANSTO is raw material used to build scientific understanding. The bridge between the data and

understanding may be simply a case of fitting the various pieces of information together, but modern materials are complex and therefore modelling can be of assistance in bridging this gap. Studies by ANSTO's Professor Don Kearley and his colleagues have provided examples of how modelling helps to choose between ambiguous analyses, provides starting models for analytical methods and gives an understanding of how the structure and dynamics of a material relate to its function.

Radiation damage and disorder of materials

The study of radiation damage is not only essential for the development of new materials used in designing nuclear reactors, but also for designing new waste forms. ANSTO's Dr Karl Whittle and his colleagues studied titanium dioxide, a model system with different polymorphs at room temperature.

The attractiveness of polymorphs is that they are formed under different conditions and have different structures, but they do not change chemically. Both experimental and molecular-dynamics simulation techniques were used to enhance predictive capabilities.

From crystal grains to texture

One of the challenges in materials science and engineering is to increase the detailed understanding of materials for modelling and lifetime prediction, as well as to design novel materials which are lighter, stronger and longer-lasting under extreme conditions. Studies by ANSTO's Dr Klaus-Dieter Liss and his colleagues aimed to understand plastic deformation of metals. Understanding the deformation of these simple materials will help researchers understand more complex systems. The team have continuously followed the in situ evolution of embedded bulk grains of copper during the plastic deformation process. Dr Liss' work looks at novel light-weight, high-temperature titanium aluminium intermetallics, zirconium alloys and ductile high-strength steels for applications in the aerospace, nuclear and transportation industries, respectively.

Research conducted by ANSTO's Dr Karl Whittle is being incorporated into models showing how materials recover from radiation damage.

ANSTO scientist Mr Michael Saleh's research help develop new analysis techniques.

Engineering

Characterisation of ductile material response to dynamic loading

ANSTO's Mr Michael Saleh and his colleagues undertake studies into the modelling and simulation of material responses to high strain-rate and high temperature phenomena.

Analysis of high velocity impacts has shown that material behaviour demonstrates sensitivity to both strain rate and the adiabatic heating of the material. This often leads to localised deformations which cannot be predicted using conventional analysis techniques e.g. shear banding, adiabatic thermal softening and pressure induced phase transformations amongst others. The team is now developing this high strain-rate method for use in a wide variety of fields including the defence sector.

Simulation of a weld procedure used in large complex facilities for residual stress determination

Metal welds of different metal compositions, i.e. 'dissimilar' welds, are a frequent joining method of two sections in the construction of large complex facilities such as nuclear power facilities. However, residual stresses induced by welding can cause or accelerate failure by several mechanisms. ANSTO's Dr Philip Bendeich, Dr Ondrej Muransky and their colleagues' research created a computer simulation of one of these 'dissimilar' metal welds in a pressuriser safety relief line. A complex weld was analysed together with

ANSTO's materials research is looking for ways to improve weld procedures.

computer simulation. The results of the analyses have been used to help interpret the behaviour of the nozzle welds on a nuclear power plant.

Residual stress and integrity of a gas pipeline connection measured by neutron diffraction

Welds are an essential part of most engineering projects; however, residual stresses induced by welding can cause or accelerate failure by several mechanisms. Residual stresses are difficult to measure, and there is little information on residual stresses in welds. ANSTO's Dr Michael Law and his colleagues measured the residual stresses in welds of a new connection to a major gas pipeline using neutron diffraction. Neutron diffraction is an ideal tool for measuring residual stresses, as it provides accurate values through the entire component thickness. The critical crack size of the pipeline was evaluated from the measured stress and compared to that estimated from integrity assessment codes. Some code estimates dangerously overestimated the critical crack size. As neutron diffraction provides a more accurate assessment of component integrity than estimates from assessment codes, the team could use their measurements to compare and validate the assessment codes.

Operation of OPAL and other facilities

OPAL

In the 2009-2010 financial year, the OPAL research reactor achieved both improved reliability and increased production.

The facility exceeded its overall availability target of 70 per cent, achieving 73 per cent over the whole year, and also exceeded its planned availability target of 90 per cent, operating for 93 per cent of the time it was scheduled to operate.

Plant issues have been reduced and the heavy water purity issue faced by the reactor last year has been stabilised as a result of the installation of mechanical clamps on the reflector vessel leak sites.

The irradiation of uranium plates for the production of Mo-99 is currently at two runs per week; this will be increased to four runs per week in the second half of 2010.

OPAL successfully undertook over 200 Neutron Activation Analysis (NAA) irradiations and approximately 7500 Delayed Neutron Activation Analysis (DNAA) irradiations for various customers, including ANSTO institutes, universities and commercial clients.

Silicon irradiation produced outstanding results that generated approximately $2 million in revenue for the year.

ANSTO plans to operate the reactor for 300 days in 2010-2011 with only short maintenance shutdowns.

Neutron-beam instruments

OPAL's neutron research facilities contain neutron-beam instruments which require OPAL's neutrons for solving complex research and industrial problems in many important fields.

Neutron scattering allows scientists to see what x-rays cannot. They look at materials from the inside out, understanding their atomic structure and how materials respond to various stimuli.

ANSTO's operating neutron-beam instruments are:

- Echidna – a high-resolution powder diffractometer
- Koala – a laue diffractometer
- Kowari – a residual-stress diffractometer
- Platypus – a reflectometer
- Quokka – a small-angle neutron scattering instrument
- Taipan - a thermal triple-axis spectrometer
- Wombat – powder diffractometer

In May 2009, ANSTO was allocated $37 million of new Federal Government project funding for new guides and instrumentation at OPAL.

The Neutron Beam Expansion Project is well underway following extensive stakeholder consultation that began in August with a two-day scoping workshop involving 80 national and international researchers.

ANSTO's world-class nuclear research reactor, OPAL, exceeded its overall and planned availability targets in 2009-2010.

As a result of that meeting, a report was published on the need for a time of-flight small-angle neutron scattering instrument (Bilby), a neutron radiography instrument, a tomography instrument and imaging station (Dingo), a back-scattering spectrometer (Emu) and a sample-environment apparatus including a cryomagnet/dilution refrigerator and a high-end gas handling system.

This is in addition to the portfolio of existing capital and commercial projects including the construction of Pelican a time-of-flight spectrometer, Sika a cold-neutron three-axis spectrometer, Kookaburra an ultra-small-angle scattering instrument and the beryllium-filter option on Taipan, ANSTO's thermal triple-axis spectrometer.

ANSTO has also begun design of a new Bragg Institute building extension. The extensions will provide laboratories and workshops for 150 people, including increasing numbers of international scientists who are attracted to ANSTO by the new OPAL reactor. The OPAL reactor building will also be extended to better cater for increased uses of the reactor, including increased radiopharmaceutical production.

National Deuteration Facility

ANSTO's National Deuteration Facility offers the capability to produce molecules where all or part of the molecular hydrogen is in the form of the stable (non-radioactive) isotope of hydrogen called deuterium.

This important technique enables scientists to more effectively investigate the relationship between the structure and function of proteins, DNA, synthetic polymers and other materials known as 'soft matter'.

Molecular deuteration assists in making it possible to observe the arrangement of sub-units of an enzyme, or changes in shape when molecules interact or become active or inactive. This can be done with molecules in solution under relevant real life conditions. Hydrogen and deuterium atoms scatter neutrons quite differently when placed in front of a neutron beam. Molecular deuteration of parts of a molecule creates contrast between those parts containing deuterium and those with normal hydrogen, thus providing more information about the molecular structure.

Radiopharmaceutical production facilities

ANSTO supplies radiopharmaceuticals to over 220 nuclear medicine centres across Australia and exports to New Zealand and South East Asia.

ANSTO simultaneously produces large quantities of different isotopes, such as Mo-99 and iodine-131(I-131), used for the diagnosis and treatment of serious illnesses such as cancer.

ANSTO's low enriched uranium Mo-99 manufacturing facility is being used to meet the huge demand for this important radiopharmaceutical, which is the basis of

ANSTO produces approximately 550,000 patient doses of radiopharmaceuticals every year which are distributed through radiopharmacists directly to hospitals across Australia.

80 per cent of nuclear medicine procedures performed around the world.

The other main radiopharmaceuticals distributed are I-131, used to treat hyperthyroidism and in the diagnosis and treatment of thyroid cancer; gallium-67 (Ga-67) to determine the extent of Hodgkin's Disease, lymphomas and bronchogenic carcinoma; iodine-123 mIBG (I-123) for detection, staging and follow-up to therapy for neuroblastomas and thallium-201(Tl-201) used in myocardial perfusion imaging for the diagnosis and localisation of myocardial infarction.

Accelerators

Accelerators are used to analyse materials - often using extremely small samples – to determine their elemental composition and age. ANSTO currently has two accelerators, ANTARES and STAR, both of which are used in ion beam analysis and accelerator mass spectrometry.

In May 2009, ANSTO was allocated $25 million of new Federal Government project funding for a Centre for Accelerator Science at ANSTO. ANSTO will develop the Centre over the next four years. Construction was officially approved by Parliament in June.

The new accelerators are a low energy multi-isotope accelerator mass spectrometer and a new medium-energy tandem accelerator.

The Centre will act as a strong drawcard for Australian and overseas scientists from nearly every scientific field, working in areas such as radiocarbon dating and environmental studies.

Irradiation facility

ANSTO's irradiation facility, known as GATRI (Gamma Technology Research Irradiator), celebrated its 40th year of operation in March. The facility is used to irradiate items for medical health, industry, agriculture and research.

GATRI is the only Australian provider of high precision irradiation services including:

- Sterilisation of frozen human bone and tendons for transplants and grafting in surgery
- Irradiation of the Queensland fruit fly to help control infestations
- Irradiation of quarantine goods
- Plant mutation studies
- Sterilisation of medical products
- Accelerating long term storage effects on products such as plastics and electronics.

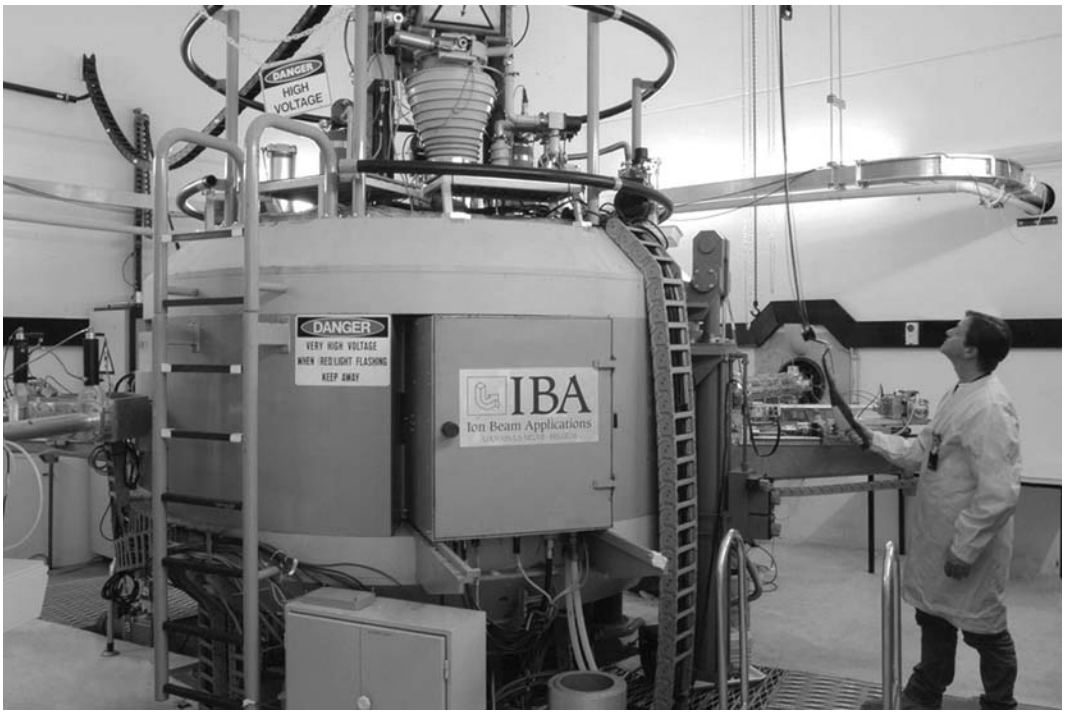
Given the age of the facility and the continuing demand for irradiation and dosimetry services for niche and novel applications, a scientific and business case of the need for ANSTO to maintain the expertise and capabilities in high dose irradiation and dosimetry and to replace GATRI with a new irradiation facility is currently being examined.

Decommissioning – Moata, HIFAR and the National Medical Cyclotron

ANSTO is in the process of decommissioning the Moata reactor and preparing for the decommissioning of the HIFAR reactor both located at ANSTO's southern Sydney campus as well as the National Medical Cyclotron (NMC) at Camperdown, NSW.

ANSTO operated the NMC, an accelerator used to produce certain short-lived radioisotopes for nuclear medicine procedures, until it was shut down in October 2009 after 20 years of service.

The key isotopes produced at the NMC were Tl-201, Ga-67 and I-123, which are now being imported while production capability is established in Australia.



ANSTO's National Medical Cyclotron, an accelerator used to produce certain short-lived radioisotopes, was shut down in October 2009 after 20 years of service.

In the 2010-2011 budget, the Federal Government allocated $9.7 million towards the continued safe decommissioning of ANSTO's disused nuclear facilities. This decommissioning will occur in accordance with highly regulated national and international safety requirements.

Community and education

Tours and visits

ANSTO provides free guided tours of its facilities to the public. Tours provide participants with information about ANSTO's research and a visit to the OPAL research reactor building and neutron guide hall. Visitors range from primary and high school students; university students; community organisations; business people and politicians.

A record number of 9,543 visitors toured ANSTO in 2009-2010.

Compared to 2008-2009, there was a 40 per cent increase in school visitors (3,281 to 4,605), a 15 per cent increase in community visitors (3,079 to 3,544) and a 45 per cent increase in university visitors (328 to 477).

ANSTO sponsors and participates in numerous international and national events and conferences and supports local events including the Sutherland Shire Australia Day community celebrations pictured.

Open Day

In addition to the 9,543 general visits, more than 2,000 people attended ANSTO's first Open Day in five years, held in September. Of those, 1,850 people toured the ANSTO campus on buses and experienced the OPAL visitor's centre and Neutron Guide Hall and had discussions with scientists.

A popular feature of the event was an Open Day panel discussion on cleaner energy options for our future. The discussion was chaired by the ABC's Robyn Williams and the expert panel members included Dr Ziggy Switkowski (ANSTO Chairman), Keith Orchison (energy commentator) and Burt Beasley (Australian Coal Association).

Other free activities on the day to entertain both young adults and kids included a science show, rides, giveaways and information stalls from ANSTO and other local community organisations.

In an online survey, 94 per cent of visitors rated the experience as good or excellent, and more than 94 per cent said it was well-organised. Pleasingly, 72 per cent indicated that they had learnt more about nuclear science and technology and specific topics including the difference between man-made and naturally occurring isotopes.

New South Wales Governor, Professor Marie Bashir visited ANSTO and spoke with around 50 of Australia's best and brightest Year 11 science students as part of a National Youth Science Forum visit.

Sponsorships

ANSTO sponsored a range of research and community events in the 2009-2010 financial year. Sponsorships this year included: 'Eureka Moments', a documentary about past Eureka Prize winners, shown on the ABC's *Catalyst* program and at the awards night in August; a $40,000 Fulbright Scholarship open to Australian citizens wishing to carry out research or study in the United States (US) in nuclear science or technology; the local Sutherland Shire Australia Day celebrations; 'Science Exposed', run by the NSW Office of Science and Medical Research; and 'Science in the City', run by the Australian Museum.

Distinguished Lecture Series

For the first time, ANSTO ran a number of public lectures in the AINSE lecture theatre. The talks, entitled the 'Distinguished Lecture Series', featured a number of world leading experts, including Australian nuclear physicist Dr Barry Green, who discussed fusion energy; Stanford University's Dr Stuart Parkin, who spoke about computers of the future; US author of Prescription for the Planet, Tom Blees, who discussed how nuclear waste and the material leftover from decommissioning of nuclear weapons could produce electricity for the next 1,000 years; Professor Michael Cowley of Monash University, who spoke about promising new studies that have the potential to provide solutions to the obesity epidemic; and Dr Ron Mitchell who put forward that not all doses of radiation are potentially harmful to human health.

Outstanding staff achievements

Dr Andrew Smith

ANSTO scientist, Dr Andrew Smith, was one of six finalists in the 2009 Eureka Prize People's Choice award. Dr Smith's entry was in the category of innovative solutions to climate change. Dr Smith used Accelerator Mass Spectrometry (AMS) to analyse samples of trapped air from polar ice sheets to study the origin of the potent greenhouse gas, methane, in the Earth's atmosphere. All six finalists were profiled on the ABC's *Catalyst* program in July and at the event in August.

Professor John Dodson

Head of the Institute for Environmental Research, Professor John Dodson, and co-authors, were awarded the Australian Award for Excellence in Education and Publishing for the book *The Australian Physical Environment,* Oxford University Press 2008.

Dr Guan Heng Yeoh

ANSTO's computational modeller, Dr Guan Heng Yeoh was recognised as one of the top experts in his field after being awarded the Brennan Medal by the UK's prestigious Institute of Chemical Engineers. The medal is given for the best book published by the Institute each year – in this case, his book *Computational Techniques for Multiphase Flows.*

Professor John Boldeman

Professor John Boldeman's remarkable 50-year association with ANSTO and its predecessor, the Australian Atomic Energy Commission, saw him awarded one of the highest accolades in Australian science, the 2010 ATSE Clunies Ross Lifetime Contribution Award.

Businesses

External earnings by ANSTO business and commercial groups amounted to $52.1 million in 2009-2010. This was up $8.59 million, being a 19.7 per cent increase over the previous year.

ANSTO Health

ANSTO Health® (formerly ARI) is the commercial division of ANSTO that produces radiopharmaceuticals. It is the primary supplier of radiopharmaceuticals in Australia and operates a production facility from ANSTO's southern Sydney campus. ANSTO Health® plays an important role in the nuclear medicine and health industries in Australia, supplying around 550,000 patient doses of radiopharmaceuticals each year. In addition, ANSTO Health® exports radiopharmaceuticals to New Zealand and Asia.

ANSTO Health® implemented a price increase for radiopharmaceuticals in response to increased material and production costs incurred.

ANSTO Health's revenue earning was $22.62 million in 2009-2010. This was up $1.25 million from the previous year.

Mo-99

In June 2009, ANSTO brought on-line a radiochemical manufacturing plant associated with the OPAL reactor, which produces Mo-99. Mo-99 is the precursor to technetium-99m (Tc-99) which is currently the most widely used radioisotope worldwide in nuclear medicine for diagnostic application. In Australia, (Tc-99) is used in over 80 per cent of nuclear medicine procedures.

There is currently a global shortage of Mo-99, due to a number of ageing reactors being shutdown for extended periods. This shortage will continue as one reactor (which produces 40 per cent of the global supply) is shut down permanently in the next 5-7 years. ANSTO's Mo-99 production facility can supply all of Australia's current and future nuclear medicine supply and will have capacity to export product overseas.

Alzheimer's and Parkinson's imaging agreement with Bayer

Medical trials in the United States on a new imaging technique developed by ANSTO could open a window into new diagnostic options for patients with Alzheimer's disease or Parkinson's disease. An agreement with Bayer Schering Pharma stems from studies performed by ANSTO scientists, Dr Andrew Katsifis and Ms Filomena Mattner, in the mid-1990s, which found new ways to obtain images of neuroinflammation which is believed to be an early characteristic of these debilitating diseases.

ANSTO Minerals

ANSTO Minerals is a commercial consultancy group focussed on the uranium and rare earths mining sector. ANSTO has over 30 years experience and

ANSTO Minerals is a commercial consultancy group focussed on the uranium and rare earths mining sector.

expertise that includes chemical engineering, metallurgy, mineralogy, chemistry, geology and radiation safety. ANSTO Minerals offer practical solutions and innovative technology including flowsheet design, bench testing and scale up to pilot plant. The services delivered by ANSTO Minerals generate substantial financial and environmental benefits to mining and mineral processing customers.

ANSTO Minerals' revenue earning for 2009-2010 was $10.52 million.

External radiation services

ANSTO is the leading provider of radiation protection services and advice in Australia. ANSTO has practical expertise in almost all facets of radiation safety and dealing with radioactive materials. Services are tailored to client requirements. They include radiation safety training, radiation protection advice, measurement and management plan development and reviews, radiation instrument calibration, systems safety and reliability consultancy. ANSTO also provides services and advice in high-dose irradiation and high-dose dosimetry for scientific research and the provision of irradiation services to health care, agriculture and industry.

PETNET

PETNET Australia Pty Ltd (trading as PETNET Solutions), is a wholly owned subsidiary of ANSTO, which operates two medical cyclotrons for radiopharmaceutical production at the southern Sydney campus. Routine production of FDG commenced in March 2010. This new facility increases the availability of FDG to hospitals in New South Wales, allowing

patients to have more access to nuclear medicine procedures. The production capacity will also enable some supply to other states in Australia.

CeramiSphere Pty Ltd

In April 2010, CeramiSphere Pty Ltd (a wholly owned subsidiary) was sold to an Australian owned private investment group. The subsidiary was established in 2007 to incubate and develop a technology invented by ANSTO researchers prior to full commercialisation. ANSTO has retained the patent portfolio and will receive royalty income when products go on the market.

Australian Membrane Technologies Pty Ltd

Australian Membrane Technologies Pty Ltd (AMT) (a wholly owned subsidiary) was established as an incubator company for technology developed by ANSTO researchers. In July 2009 the technology was licensed to Sydney based Bio-Gill Environmental Pty Ltd. ANSTO has retained the patent portfolio and will receive royalty income when products are sold.

Partnerships and associated organisations

Access to Major Research Facilities Program

ANSTO operates the Access to Major Research Facilities Program. For Australian science to remain at the cutting edge and for Australia to benefit from developments in technology, our scientists must have access to the best facilities in the world. This program includes large facilities not available in Australia, such as high flux neutron beam sources and high energy physics facilities.

During the 2009-2010 financial year, the program funded 56 teams to perform experiments using facilities in the U.S.A., South America, Europe and Asia. ANSTO led 11 of these teams.

AINSE

Located on ANSTO's southern Sydney campus, AINSE provides universities and other tertiary institutions with access to ANSTO's nuclear facilities, facilitating a culture of cooperation in the nuclear scientific and engineering fields. AINSE arranges for the training of scientific research workers and the award of scientific research studentships in matters associated with nuclear science and engineering. AINSE's membership comprises 39 Australian and New Zealand universities plus GNS Science, New Zealand, and ANSTO.

Australian Microscopy and Microanalysis Research Facility

ANSTO entered into an agreement with the Australian Microscopy and Microanalysis Research Facility (AMMRF) to enable collaboration with AMMRF scientists and the advanced application of their instruments. This includes the development of methods and protocols to facilitate the microscopy of radioactive materials to enhance ANSTO's capability to study radiation damage in nuclear materials.

Australian National University

In September, a Memorandum of Understanding (MOU) between the Australian National University (ANU) and ANSTO was signed, enabling the two organisations to collaborate across research fields which support Australia's capacity for international engagement in nuclear science and technology including key accelerator facilities, future energy sources and nuclear non-proliferation.

The new national partnership was launched by the Minister for Innovation, Industry, Science and Research, Senator Kim Carr and signed by ANU Vice-Chancellor Professor Ian Chubb AC and ANSTO Chief Executive Officer Dr Adi Paterson.

Australian Synchrotron

Synchrotron radiation-based techniques are vital to a wide range of research fields: physics; chemistry; materials science;

Senator the Hon. Kim Carr (left) and ANSTO Chief Executive Officer, Dr Adi Paterson (right).

structural biology; polymer research; environmental science and geophysics.

Synchrotron radiation techniques are similar to neutron scattering techniques that require a reactor such as OPAL and the results from each are often complementary, thus there is significant overlap in the user communities.

ANSTO is one of ten foundation investors in the Australian Synchrotron and has special access to the Australian Synchrotron averaging six days per year on each beamline. Proposals for this special access are internally reviewed by ANSTO. ANSTO has used this beamtime to perform strategic experiments, not well suited to a strict scientific merit review; to kick off new projects; to conduct preliminary and pilot studies; for training and familiarisation of staff on new techniques; for a small molecule crystallography service and to give increased time allocations to ANSTO proposals which have been submitted to the normal scientific merit system.

This year, ANSTO received approximately 27 days of beamtime under its agreement and a further four days of merit allocated time.

In addition, the synchrotron's online proposal and user administration system was developed and continues to be maintained by the Bragg Institute under a contract from the Australian Synchrotron.

This is a significant benefit to users of the synchrotron and the neutron scattering instruments at OPAL as both facilities run the same online user system.

ANSTO also supported two synchrotron conferences – the 10th International Conference on Synchrotron Radiation Instrumentation held in September/October, and the Biology and Synchrotron Radiation (BSR) and Medical Applications of Synchrotron Radiation (MASR) held in February.

CERN

In June, ANSTO signed an agreement with the European Organisation for Nuclear Research, better known as CERN, to undertake collaborative research in areas such as accelerator science, health and life sciences, and radiation detection. CERN is one of the world's largest centres for scientific research and is run by 20 European Member States. It is also the home of the world's largest physics project and the gigantic circular accelerator, the 27 kilometre Large Hadron Collider, which spans the Swiss-French border. By engaging with CERN, ANSTO and Australians will benefit from cutting-edge research and develop expertise in areas such as particle-therapy platforms and large-scale accelerator facilities.

Curtin University of Technology

In March, Curtin University of Technology signed a four-year, $1.2 million agreement with ANSTO to conduct research into the storage of nuclear waste. The project brings materials modelling researchers from Curtin's Nanochemistry Research Institute (NRI) together with ANSTO's renowned experts to undertake fundamental research into the design and implementation of nuclear waste forms, including fundamental research into the safe containment of highly radioactive waste. The collaboration will build national capacity in materials modelling and produce outcomes that further improve our understanding of nuclear waste.

French Atomic Energy Commission

In March, ANSTO signed an agreement with the French Atomic Energy Commission (CEA). The agreement will see ANSTO and the CEA partner more widely in research areas such as nuclear medicine, life sciences, radiation therapy, safety and radiological protection.

ANSTO and the CEA first joined forces in 1992, signing a co-operation agreement on the peaceful uses of advanced nuclear technology. It enabled important collaborative projects in areas such as medical imaging, radioactive waste forms and environmental research. Based on its recent experience building OPAL, ANSTO has also provided advice and assistance to the CEA which is building the new Jules Horowitz Reactor (JHR) at Cadarache in the South of France.

ANSTO Chief Executive Officer, Dr Adi Paterson and Professor Bernard Bigot, head of the CEA signed the agreement in Paris.

Korea Atomic Energy Research Institute

In May, ANSTO signed an agreement to strengthen ANSTO's collaboration with its counterpart in South Korea. The partnership between ANSTO and the Korea Atomic Energy Research Institute (KAERI) will see the two institutions work together across a number of research fields, allowing scientists from the two countries to collaborate on areas of shared interest. The agreement will provide access to the best facilities and scientists in both countries.

Under the agreement, areas of co-operation between the two organisations will include education and training, the operation and maintenance of research reactors and related experimental facilities, neutron beam studies, and the application of radiation and nuclear science and technology to border security.

ANSTO's relationship with South Korea dates back to 1990 where, under an earlier agreement, ANSTO had been working with KAERI on fields of mutual interest such as the effect of radiation on materials used in reactors, which ultimately assist in the improvement of reactor design.

Paul Scherrer Institute

In June, ANSTO entered into a collaborative agreement with the Paul Scherrer Institute in Switzerland to undertake joint research projects in areas such as accelerator science, health and life sciences, materials science, and environmental research.

The Paul Scherrer Institute is the largest multi-disciplinary research centre for natural and engineering sciences within Switzerland and undertakes world class research in the areas of Structure of Matter, Energy and the Environment, and Human Health.

University of Sydney

In June, a new research and educational partnership was established between ANSTO, the University of Sydney and other leading universities in the Asia-Pacific region. Under the new partnership, Sydney University's Brain and Mind Research Institute (BMRI) and ANSTO LifeSciences will establish Australia's first fully dedicated medical research cyclotron and radiochemistry facility that will produce radiotracers for the Australian imaging research community.

The cyclotron accelerates protons to produce short-lived positron-emitting radioisotopes that radiochemists will use to label chemical probes. Scientists will then use these probes together with very sensitive imaging instruments to observe physiological changes in living animals and to test new treatments for a wide variety of disease conditions.

As well as using current state-of-the-art technology, a key focus for the collaboration is to develop new radiopharmaceuticals, instruments, and scientific methods that extend the potential applications of molecular imaging in the future.

This facility will be part of the National Imaging Facility, a network of open access imaging laboratories in eight Australian universities and research institutes supported by the National Collaborative Research Infrastructure Strategy (NCRIS). Under the NCRIS initiative, the Commonwealth and NSW Governments are providing $2.6 million towards the $10 million cost of establishing the cyclotron and radiochemistry facility.

Strategic partnerships are essential for the future of ANSTO, as they utilise the principle of critical mass to achieve maximum benefit. ANSTO has entered into a number of strategic partnerships over the past 12 months with the aim of increasing skills and enabling knowledge transfer between Australia and the best institutions globally. This will deliver real benefits to all Australians.

Performance against strategic objectives

Performance against strategic objectives

Key Performance Indicators	2008-09	2009-10
Neutron Beamline usage - number of experiments	184	279
Facility availability		
- OPAL: total availability % of days at power	61%	73%
- Accelerators: average % of days operated per planned operation[1]	85%	78%
Nuclear Science Facilities project		
- percentage of funding completed	-	32%
Radiopharmaceutical doses		
- Potential Doses	1,967,707	2,113,396

1 Accelerator availability for 2009-10 was decreased compared with 2008-09 due to unplanned extended shutdown for maintenance and unavailability of parts.

Financial statements

Australian National
Audit Office

INDEPENDENT AUDITOR'S REPORT

To the Minister for Innovation, Industry, Science and Research

Scope

I have audited the accompanying financial statements of the Australian Nuclear Science and Technology Organisation (ANSTO) and the consolidated entity for the year ended 30 June 2010, which comprise: a Statement by Directors and Chief Financial Officer; Statement of Comprehensive Income; Balance Sheet; Statement of Cash Flow; Statement of Changes in Equity; Schedule of Commitments not Recognised as Liabilities; Schedule of Contingencies; Schedule of Asset Additions and Notes to and forming part of the Financial Statements, including a Summary of Significant Accounting Policies. The consolidated entity comprises the ANSTO and the entities it controlled at the year's end or from time to time during the financial year.

The Responsibility of the Members of the Board for the Financial Statements

The members of the Board are responsible for the preparation and fair presentation of the financial statements in accordance with the Finance Minister's Orders made under the Commonwealth *Authorities and Companies Act 1997,* including the Australian Accounting Standards (which include the Australian Accounting Interpretations). This responsibility includes establishing and maintaining internal control relevant to the preparation and fair presentation of the financial statements that are free from material misstatement, whether due to fraud or error; selecting and applying appropriate accounting policies; and making accounting estimates that are reasonable in the circumstances.

Auditor's Responsibility

My responsibility is to express an opinion on the financial statements based on my audit. I have conducted my audit in accordance with the Australian National Audit Office Auditing Standards, which incorporate the Australian Auditing Standards. These auditing standards require that I comply with relevant ethical requirements relating to audit engagements and plan and perform the audit to obtain reasonable assurance whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgement, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor

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considers internal control relevant to ANSTO's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of ANSTO's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by the members of the Board, as well as evaluating the overall presentation of the financial statements.

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

Independence

In conducting the audit, I have followed the independence requirements of the Australian National Audit Office, which incorporate the requirements of the Australian accounting profession.

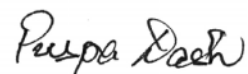
Auditor's Opinion

In my opinion, the financial statements of the Australian Nuclear Science and Technology Organisation and the consolidated entity:

(a) have been prepared in accordance with the Finance Minister's Orders made under the Commonwealth Authorities and Companies Act 1997, including the Australian Accounting Standards; and

(b) give a true and fair view of the matters required by the Finance Minister's Orders including the Australian Nuclear Science and Technology Organisation's and the consolidated entity's financial position as at 30 June 2010 and their financial performance and cash flows for the year then ended.

Australian National Audit Office



Puspa Dash
Executive Director

Delegate of the Auditor-General

Canberra
16 August 2010

Statement by Directors and Chief Financial Officer

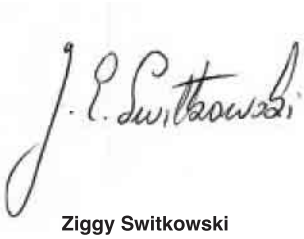
Australian Government

Australian Nuclear Science and Technology Organisation

In our opinion, the attached financial statements for the year ended 30 June 2010 have been prepared based on properly maintained financial records and give a true and fair view of the matters required by the Finance Minister's Orders made under the *Commonwealth Authorities and Companies Act 1997as amended.*

In our opinion, at the date of this statement, there are reasonable grounds to believe that the Australian Nuclear Science and Technology Organisation will be able to pay its debts as and when they become due and payable.

Signed in accordance with a resolution of the members of the Board.



Ziggy Switkowski
Chairman

16 August 2010
Sydney

Adi Paterson
Chief Executive Officer

16 August 2010
Sydney

Peter Arambatzis
Chief Financial Officer

16 August 2010
Sydney

Statement of comprehensive income for the year ended 30 June 2010

	Notes	Consolidated 2010 $'000	Consolidated 2009 $'000	ANSTO 2010 $'000	ANSTO 2009 $'000
EXPENSES					
Employee expenses	6A	**90,164**	86,374	**90,341**	87,094
Suppliers expenses	6B	**71,005**	74,646	**69,684**	71,633
Depreciation and amortisation	6C	**54,422**	59,085	**54,116**	59,010
Write down and impairment of assets	6D	**2,118**	1,189	**1,202**	6,849
Grants	6E	**4,330**	3,651	**4,330**	3,651
Finance costs	6F	**4,941**	8,258	**4,941**	8,258
TOTAL EXPENSES		**226,980**	233,203	**224,614**	236,495
LESS:					
OWN-SOURCE INCOME					
Own-source revenue					
Goods and services	5B	**47,660**	44,667	**47,373**	44,004
Interest	5D	**6,268**	8,449	**7,033**	9,167
Grants	5C	**24,222**	1,916	**24,222**	1,906
Total own-source revenue		**78,150**	55,032	**78,628**	55,077
Gains					
Net gains from sale of assets	5E	**634**	354	**634**	354
Net foreign exchange gains - non speculative	5F	**949**	463	**937**	434
Other income	5G	**108**	188	**108**	188
Total gains		**1,691**	1,005	**1,679**	976
Total Own-source income		**79,841**	56,037	**80,307**	56,053
Net cost of services		**147,139**	177,166	**144,307**	180,442
Revenue from Government	5A	**155,240**	173,115	**155,240**	173,115
Surplus (Deficit) before income tax on continuing operations		**8,101**	(4,051)	**10,933**	(7,327)
Income tax benefit		**138**	96	**-**	-
Surplus (Deficit) after income tax on continuing operations		**8,239**	(3,955)	**10,933**	(7,327)
Surplus (Deficit) after income tax		**8,239**	(3,955)	**10,933**	(7,327)
Surplus (Deficit) attributable to the Australian Government		**8,239**	(3,955)	**10,933**	(7,327)
OTHER COMPREHENSIVE INCOME					
Changes in asset revaluation reserves	10	**68,791**	48,463	**68,936**	48,328
Total other comprehensive income after income tax		**77,030**	44,508	**79,869**	41,001
Total comprehensive income		**77,030**	44,508	**79,869**	41,001

The above statement should be read in conjunction with the accompanying notes

Balance sheet
as at 30 June 2010

	Notes	Consolidated 2010 $'000	Consolidated 2009 $'000	ANSTO 2010 $'000	ANSTO 2009 $'000
ASSETS					
Financial assets					
Cash	7A, 21	**5,023**	3,752	**2,699**	3,265
Receivables	7B, 21	**9,045**	9,557	**21,852**	16,176
Investments	7C, 21	**134,000**	142,661	**139,000**	146,979
Total financial assets		**148,068**	155,970	**163,551**	166,420
Non-financial assets					
Land and buildings	8A	**196,510**	157,645	**190,531**	157,645
Infrastructure, plant and equipment and major facilities	8B	**688,655**	612,299	**682,505**	602,404
Inventories	8C	**13,784**	8,711	**13,758**	8,711
Intangibles	8D	**15,417**	5,241	**15,407**	5,241
Other	8E	**6,659**	4,404	**6,214**	3,634
Total non-financial assets		**921,025**	788,300	**908,415**	777,635
Total assets		**1,069,093**	944,270	**1,071,966**	944,055
LIABILITIES					
Payables					
Suppliers	9E, 21	**12,578**	8,263	**12,759**	8,150
Employees	9F, 21	**2,815**	1,609	**2,797**	1,603
Grants	9G, 21	**562**	575	**562**	575
Other	9H, 21	**1,557**	1,171	**1,557**	1,171
Total payables		**17,512**	11,618	**17,675**	11,499
Interest bearing liabilities					
Other	9A, 21	**3,497**	3,308	**3,497**	3,308
Total interest bearing liabilities		**3,497**	3,308	**3,497**	3,308
Provisions					
Employees	9B	**25,487**	23,213	**25,440**	23,192
Decommissioning costs	9C	**160,542**	119,374	**160,542**	119,374
Other	9D	**270**	2,007	**268**	2,007
Total provisions		**186,299**	144,594	**186,250**	144,573
Total liabilities		**207,308**	159,520	**207,422**	159,380
NET ASSETS		**861,785**	784,750	**864,544**	784,675
EQUITY	10				
Contributed equity		**447,856**	447,856	**447,856**	447,856
Reserves		**361,404**	291,119	**361,253**	290,828
Retained surpluses		**52,525**	45,775	**55,435**	45,991
Total equity		**861,785**	784,750	**864,544**	784,675

The above statement should be read in conjunction with the accompanying notes

Statement of cash flows
for the year ended 30 June 2010

	Note	Consolidated 2010 $'000 Inflows (Outflows)	Consolidated 2009 $'000 Inflows (Outflows)	ANSTO 2010 $'000 Inflows (Outflows)	ANSTO 2009 $'000 Inflows (Outflows)
OPERATING ACTIVITIES					
Cash received					
Good and services		**73,738**	46,684	**73,394**	46,215
Interest received		**5,984**	8,497	**5,948**	8,864
Receipts from Government		**155,240**	173,115	**155,240**	173,115
Total cash received		**234,962**	228,296	**234,582**	228,194
Cash used					
Employee		**(86,684)**	(79,256)	**(86,899)**	(88,075)
Suppliers		**(85,956)**	(97,805)	**(83,635)**	(86,737)
Total cash used		**(172,640)**	(177,061)	**(170,534)**	(174,812)
NET CASH FLOWS FROM OPERATING ACTIVITIES	11	**62,322**	51,235	**64,048**	53,382
INVESTING ACTIVITIES					
Cash received					
Proceeds on sale of property plant and equipment		**1,707**	1,564	**1,707**	1,564
Proceeds from investment sales		**274,626**	64,189	**273,944**	64,189
Total cash received		**276,333**	65,753	**275,651**	65,753
Cash used					
Purchase of property, plant and equipment		**(70,737)**	(45,850)	**(68,334)**	(36,234)
Loans to related parties		**-**	-	**(5,284)**	(6,800)
Purchase of investment		**(266,647)**	(78,288)	**(266,647)**	(78,288)
Total cash used		**(337,384)**	(124,138)	**(340,265)**	(121,322)
NET CASH USED BY INVESTING ACTIVITIES		**(61,051)**	(58,385)	**(64,614)**	(55,569)
FINANCING ACTIVITIES					
Cash received					
Appropriation - contributed equity		**-**	1,600	**-**	1,600
NET CASH FLOWS FROM FINANCING ACTIVITIES		**-**	1,600	**-**	1,600
NET INCREASE/(DECREASE) IN CASH HELD		**1,271**	(5,550)	**(566)**	(587)
Cash at 1 July		**3,752**	9,302	**3,265**	3,852
Cash at 30 June		**5,023**	3,752	**2,699**	3,265

The above statement should be read in conjunction with the accompanying notes

Statement of changes in equity for the year ended 30 June 2010

	Consolidated					
	Retained Surpluses		Asset Revaluation Reserve		Other Reserves	
	2010 $'000	2009 $'000	**2010 $'000**	2009 $'000	**2010 $'000**	2009 $'000
Opening Balance	**45,775**	22,234	**277,711**	229,248	**13,408**	40,885
Foreign currency translation	**-**	-	**-**	-	**16**	19
Revaluation increment	**-**	-	**68,791**	48,463	**-**	-
Other	**-**	-	**-**	-	**(11)**	-
Surplus (deficit) for the period	**8,239**	(3,955)	**-**	-	**-**	-
Total comprehensive income	**8,239**	(3,955)	**68,791**	48,463	**5**	19
Contributions by Owners						
Appropriation (equity injection)	**-**	-	**-**	-	**-**	-
Sub-total Transactions with Owners	**-**	-	**-**	-	**-**	-
Transfers between equity components	**(1,489)**	27,496	**-**	-	**1,489**	(27,496)
Closing balance as at 30 June	**52,525**	45,775	**346,502**	277,711	**14,902**	13,408
Closing balance attributable to Australian Government	**52,525**	45,775	**346,502**	277,711	**14,902**	13,408

	ANSTO					
	Retained Surpluses		Asset Revaluation Reserve		Other Reserves	
	2010 $'000	2009 $'000	**2010 $'000**	2009 $'000	**2010 $'000**	2009 $'000
Opening Balance	**45,991**	25,672	**277,567**	229,239	**13,261**	40,907
Revaluation increment	**-**	-	**68,936**	48,328	**-**	-
Surplus (deficit) for the period	**10,933**	(7,327)	**-**	-	**-**	-
Total comprehensive income	**10,933**	(7,327)	**68,936**	48,328	**-**	-
Contributions by Owners						
Appropriation (equity injection)	**-**	-	**-**	-	**-**	-
Sub-total Transactions with Owners	**-**	-	**-**	-	**-**	-
Transfers between equity components	**(1,489)**	27,646	**-**	-	**1,489**	(27,646)
Closing balance as at 30 June	**55,435**	45,991	**346,503**	277,567	**14,750**	13,261
Closing balance attributable to Australian Government	**55,435**	45,991	**346,503**	277,567	**14,750**	13,261

The above statement should be read in conjunction with the accompanying notes

Statement of changes in equity for the year ended 30 June 2010

	Consolidated			
	Contributed Equity/Capital		Total Equity	
	2010	2009	**2010**	2009
	$'000	$'000	**$'000**	$'000
Opening Balance	**447,856**	446,256	**784,750**	738,623
Foreign currency translation	**-**	-	**16**	19
Revaluation increment	**-**	-	**68,791**	48,463
Other	**-**	-	**(11)**	-
Surplus (deficit) for the period	**-**	-	**8,239**	(3,955)
Total comprehensive income	**-**	-	**77,035**	44,527
Contributions by Owners				
Appropriation (equity injection)	**-**	1,600	**-**	1,600
Sub-total Transactions with Owners	**-**	1,600	**-**	1,600
Transfers between equity components	**-**	-	**-**	-
Closing balance as at 30 June	**447,856**	447,856	**861,785**	784,750
Closing balance attributable to Australian Government	**447,856**	447,856	**861,785**	784,750

	Contributed Equity/Capital		Total Equity	
	2010	2009	**2010**	2009
	$'000	$'000	**$'000**	$'000
Opening Balance	**447,856**	446,256	**784,675**	742,074
Revaluation increment	**-**	-	**68,936**	48,328
Surplus (deficit) for the period	**-**	-	**10,933**	(7,327)
Total comprehensive income	**-**	-	**79,869**	41,001
Contributions by Owners				
Appropriation (equity injection)	**-**	1,600	**-**	1,600
Sub-total Transactions with Owners	**-**	1,600	**-**	1,600
Transfers between equity components	**-**	-	**-**	-
Closing balance as at 30 June	**447,856**	447,856	**864,544**	784,675
Closing balance attributable to Australian Government	**447,856**	447,856	**864,544**	784,675

The above statement should be read in conjunction with the accompanying notes

Schedule of commitments not recognised as liabilities as at 30 June 2010

	Notes	Consolidated 2010 $'000	Consolidated 2009 $'000	ANSTO 2010 $'000	ANSTO 2009 $'000
BY TYPE					
CAPITAL COMMITMENTS					
Infrastructure, plant and equipment		**6,563**	14,485	**6,563**	14,485
Fuel elements purchase		**5,527**	9,830	**5,527**	9,830
Mo-99 plates purchase		**2,135**	-	**2,135**	-
Total capital commitments		**14,225**	24,315	**14,225**	24,315
By maturity					
Capital commitments payable					
One year or less		**10,796**	16,509	**10,796**	16,509
From one to five years		**3,429**	7,806	**3,429**	7,806
		14,225	24,315	**14,225**	24,315
OTHER COMMITMENTS					
Replacement Research Reactor Project (OPAL)	(b)	**6,819**	9,340	**6,819**	9,340
Disposition of spent fuel	(a)	**-**	1,234	**-**	1,234
Operating lease	(c)	**1,999**	2,136	**1,999**	2,136
Return of waste to Australia	(d)	**1,117**	1,223	**1,117**	1,223
Total other commitments		**9,935**	13,933	**9,935**	13,933
Total commitments payable		**24,160**	38,248	**24,160**	38,248
Other commitments receivable					
Disposition of spent fuel	(a)	**-**	1,234	**-**	1,234
GST recoverable from Australian Taxation Office		**1,293**	2,210	**1,293**	2,210
Total other commitments receivable		**1,293**	3,444	**1,293**	3,444
Net other commitments		**8,642**	10,489	**8,642**	10,489
By maturity - other commitments (OPAL)					
One year or less		**6,939**	9,400	**6,939**	9,400
From one to five years		**997**	1,163	**997**	1,163
		7,936	10,563	**7,936**	10,563
By maturity - operating lease - minimum payments					
One year or less		**137**	137	**137**	137
From one to five years		**685**	685	**685**	685
Over five years		**1,177**	1,314	**1,177**	1,314
		1,999	2,136	**1,999**	2,136

(a) There will be no further shipments of spent fuel from the HIFAR and Moata reactors and accordingly there will be no further draw downs against this funding stream which is now considered closed.

(b) A contract was executed on 13 July 2000 between ANSTO and INVAP SE for the design, construction and commissioning of a replacement research reactor at Lucas Heights. The amount of $6.819 million (2009: $9.340 million) is included in the commitment by maturity.

(c) ANSTO has a twenty five year lease contract with Central Sydney Area Health Services with an annual rental payable of $137,000 (2009: $137,000). The annual rental is subject to review every three years.

(d) ANSTO has a commitment relating to the return to Australia of the processed waste from HIFAR fuel rods as follows:
- From 22 Dec 2010, ANSTO is committed to pay an annual combined storage and management fee of AUD 120,165 to Nuclear Decommissioning Authority (NDA) of the UK until the return of the waste to Australia in 2015/2016.
- In 2013, ANSTO is committed to providing a "performance bond" to COGEMA of France of a sum equivalent to 1.5 million French Francs in 1999 terms or AUD 395,774 in 2010 dollars.

The timing of the other commitments payable is matched to the receipt of other commitments receivable.

The amounts reported as commitments payable includes GST where relevant. Recoveries due from the Australian Taxation Office in relation to commitments payable are disclosed as commitments receivable.

The above schedule should be read in conjunction with the accompanying notes.

Schedule of contingencies as at 30 June 2010

	Consolidated		ANSTO	
	2010	2009	**2010**	2009
	$'000	$'000	**$'000**	$'000
Contingent Liabilities				
Guarantee (a)	**-**	1,480	**-**	1,480
Waste return to Australia (b)	**9,235**	11,710	**9,235**	11,710
	9,235	13,190	**9,235**	13,190

(a) Unused overdraft facility.

(b) ANSTO has a contingent liability with COGEMA relating to the waste return services amounting to 35 million French Francs in 1999 terms. The contract contains a formula for escalation and it is equivalent to be AUD 9.2 million in 2010 dollars (AUD 11.7 million, 2009).

ANSTO still has the likelihood of claims in relation to asbestos related diseases. Such claims are however covered by the Department of Finance and Deregulation provision dealing with asbestos related claims against any Commonwealth Authorities including ANSTO in the event of any litigation or claim for compensation.

Schedule of asset additions
for the year ended 30 June 2010

SCHEDULE OF ASSET ADDITIONS

The following non-financial non-current assets were added in 2009-10: (Consolidated)

Additions funded in the current year	Land $'000	Buildings $'000	Investment Properties $'000	Heritage & cultural $'000	Other property, plant & equipment $'000	Intangibles $'000	Other $'000	Total $'000
By purchase - Government funding	-	18,266	-	-	41,198	10,286	-	69,750
By purchase - donated funds	-	-	-	-	987	-	-	987
By purchase - other	-	-	-	-	-	-	-	-
By purchase - finance lease	-	-	-	-	-	-	-	-
Assets received as gifts/donations	-	-	-	-	-	-	-	-
From acquisition of entities or operations	-	-	-	-	-	-	-	-
(including restructuring)	-	-	-	-	-	-	-	-
Total additions funded in the current year	**-**	**18,266**	**-**	**-**	**42,185**	**10,286**	**-**	**70,737**
Additions recognised in 2009-10 - to be funded in future years								
Decommissioning costs	-	10,869	-	-	104,213	-	-	115,082
by finance lease - future years	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-
Total additions funded in the future year	**-**	**10,869**	**-**	**-**	**104,213**	**-**	**-**	**115,082**
Total asset additions	**-**	**29,135**	**-**	**-**	**146,398**	**10,286**	**-**	**185,819**

The following non-financial non-assets were added in 2008-09 (Consolidated)

Additions funded in the current year	Land $'000	Buildings $'000	Investment Properties $'000	Heritage & cultural $'000	Other property, plant & equipment $'000	Intangibles $'000	Other $'000	Total $'000
By purchase - Government funding	-	695	-	-	41,611	3,544	-	45,850
By purchase - donated funds	-	-	-	-	-	-	-	-
By purchase - other	-	-	-	-	-	-	-	-
By purchase - finance lease	-	-	-	-	-	-	-	-
Assets received as gifts/donations	-	-	-	-	-	-	-	-
From acquisition of entities or operations	-	-	-	-	-	-	-	-
(including restructuring)	-	-	-	-	-	-	-	-
Total additions funded in the current year	**-**	**695**	**-**	**-**	**41,611**	**3,544**	**-**	**45,850**
Additions recognised in 2008-09 - to be funded in future years								
Decommissioning costs	-	-	-	-	-	-	-	-
by finance lease - future years	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-
Total additions funded in the future year	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Total asset additions	**-**	**695**	**-**	**-**	**41,611**	**3,544**	**-**	**45,850**

Schedule of asset additions
for the year ended 30 June 2010

SCHEDULE OF ASSET ADDITIONS

The following non-financial non-current assets were added in 2009-10: (ANSTO)

Additions funded in the current year	Land $'000	Buildings $'000	Investment Properties $'000	Heritage & cultural $'000	Other property, plant & equipment $'000	Intangibles $'000	Other $'000	Total $'000
By purchase - Government funding	-	16,802	-	-	40,269	10,275	-	67,346
By purchase - donated funds	-	-	-	-	987	-	-	987
By purchase - other	-	-	-	-	-	-	-	-
By purchase - finance lease	-	-	-	-	-	-	-	-
Assets received as gifts/donations	-	-	-	-	-	-	-	-
From acquisition of entities or operations	-	-	-	-	-	-	-	-
(including restructuring)	-	-	-	-	-	-	-	-
Total additions funded in the current year	**-**	**16,802**	**-**	**-**	**41,256**	**10,275**	**-**	**68,333**
Additions recognised in 2009-10 - to be funded in future years								
Decommissioning costs	**-**	10,869	**-**	**-**	104,213	**-**	**-**	115,082
by finance lease - future years	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Other	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Total additions funded in the future year	**-**	**10,869**	**-**	**-**	**104,213**	**-**	**-**	**115,082**
Total asset additions	**-**	**27,671**	**-**	**-**	**145,469**	**10,275**	**-**	**183,415**

The following non-financial non-assets were added in 2008-09 (ANSTO)

Additions funded in the current year	Land $'000	Buildings $'000	Investment Properties $'000	Heritage & cultural $'000	Other property, plant & equipment $'000	Intangibles $'000	Other $'000	Total $'000
By purchase - Government funding	-	695	-	-	35,539	-	-	36,234
By purchase - donated funds	-	-	-	-	-	-	-	-
By purchase - other	-	-	-	-	-	-	-	-
By purchase - finance lease	-	-	-	-	-	-	-	-
Assets received as gifts/donations	-	-	-	-	-	-	-	-
From acquisition of entities or operations	-	-	-	-	-	-	-	-
(including restructuring)	-	-	-	-	-	-	-	-
Total additions funded in the current year	**-**	**695**	**-**	**-**	**35,539**	**-**	**-**	**36,234**
Additions recognised in 2008-09 - to be funded in future years								
Decommissioning costs	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
by finance lease - future years	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-
Total additions funded in the future year	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Total asset additions	**-**	**695**	**-**	**-**	**35,539**	**-**	**-**	**36,234**

Notes to and forming part of the Financial Statements for the year ended 30 June 2010

Notes to and forming part of the Financial Statements for the year ended 30 June 2010

1 Economic dependency

The continued existence and operations of the Australian Nuclear Science and Technology Organisation (ANSTO) and its present programs is dependent on Government policy and on continuing funding by the Commonwealth Government for ANSTO's administration and programs.

2 Summary of significant accounting policies

(a) Basis of preparation of the Financial Statements

The financial statements and notes are required by clause 1(b) of Schedule 1 to the *Commonwealth Authorities and Companies Act 1997 (CAC Act)* and are a general purpose financial statements.

They have been prepared:

i. having regard to the provisions of the Australian Nuclear Science and Technology Organisation (*ANSTO)* Act 1987 (*as amended)*

ii. in accordance with:
- Finance Minister's Orders (FMOs) for reporting periods ending on or after 1 July 2009; and
- Australian Accounting Standards and Interpretations issued by the Australian Accounting Standards Board (AASB) that apply for the reporting period.

The financial statements have been prepared on an accruals basis and is in accordance with the historical cost convention, except for certain assets which are stated at fair value. Except where stated, no allowance is made for the effect of changing prices on the results or the financial position.

The financial report is presented in Australian dollars and values are rounded to the nearest thousand dollars unless otherwise specified.

Unless an alternative treatment is specifically required by an Accounting Standard or the FMOs, assets and liabilities are recognised in the Balance Sheet when and only when it is probable that future economic benefits will flow to ANSTO or a future sacrifice of economic benefits will be required and the amounts of the assets or liabilities can be reliably measured. However, assets and liabilities arising under Agreements Equally Proportionately Unperformed are not recognised unless required by an Accounting Standard. Liabilities and assets that are unrecognised are reported in the Schedule of Commitments not recognised as liabilities and the Schedule of Contingencies.

Unless alternative treatment is specifically required by an Accounting Standard or the FMOs, income and expenses are recognised in the Statement of Comprehensive Income when and only when the flow, consumption or loss of economic benefits has occurred and can be reliably measured.

(b) Significant Accounting Judgements and Estimates

In the process of applying the accounting policies listed in this note, ANSTO has made the following judgements that have the most significant impact on the amounts recorded in the financial statements.

The fair value of land and buildings has been taken to be the market value of similar properties as determined by an independent valuer.

Apart from assumptions and estimates relating to the Decommissioning Cost provision, no other accounting assumptions or estimates have been identified that have a significant risk of causing a material adjustment to carrying amounts of assets and liabilities within the next accounting period.

(c) Statement of Compliance

Australian Accounting Standards require a statement of compliance with International Financial Reporting Standards (IFRSs) to be made where the financial report complies with these standards. Some Australian equivalents to IFRSs and other Australian Accounting Standards contain requirements specific to not-for-profit entities that are inconsistent with IFRS requirements. ANSTO is a not-for-profit entity and has applied these requirements, so while this financial report complies with Australian Accounting Standards including Australian Equivalents to International Financial Reporting Standards (AEIFRSs) it does not comply with IFRS.

Notes to and forming part of the Financial Statements for the year ended 30 June 2010

(d) Adoption of new Australian Accounting Standard requirements

No accounting standard has been adopted earlier than the application date as stated in the standard.

Current Australian Accounting Standard Requirements

Other [new standards/revised standards/interpretations/amending standards] that were issued prior to the signing of the Statement by Directors and Chief Financial Officer and are applicable to the current reporting period did not have a material financial impact, and are not expected to have a future material financial impact on ANSTO.

Future Australian Accounting Standard Requirements

Other [new standards/revised standards/interpretations/amending standards] that were issued prior to the signing of the Statement by the Directors and Chief Financial Officer and are applicable to the future reporting period are not expected to have a future material financial impact on the ANSTO.

(e) Reporting by outcomes

A comparison of current and prior years' figures by outcome as specified in the Portfolio Budget Statements relevant to ANSTO, is presented in Note 4.

(f) Revenue recognition

Revenue from Government
Funding received or receivable from Department of Innovation, Industry, Science and Research (DIISR) (appropriated to ANSTO as a CAC Act body) is recognised as Revenue from Government unless it is in the nature of an equity injection.

Equity injections
Amounts that are designated as equity injections for a year are recognised directly in contributed equity in that year.

Operating revenue from goods and services
Revenue from the sale of goods is recognised when:
- The risks and rewards of ownership have been transferred to the buyer;
- The seller retains no managerial involvement nor effective control over the goods;
- The revenue and transaction costs incurred can be reliably measured; and
- It is probable that the economic benefits associated with the transaction will flow to ANSTO.

Receivables for goods and services are recognised at the nominal amounts due less any provision for doubtful debts. Collectability of debts is reviewed at balance date. Allowance is made when collectability of the debt is no longer probable.

Revenue received in advance
Revenue received in advance is initially brought to account as "unearned revenue" and subsequently recognised as revenue when earned.

Contract revenue
Revenue from the rendering of a service is recognised by reference to the stage of completion of each contract. The stage of completion is determined by reference to the proportion that the completed physical contract work bears to the estimated total physical contract work.

Interest revenue
Interest revenue is recognised as the interest is received or is entitled to be received.

Revenue from sale of assets
Revenue is recognised when control of the asset has passed to the buyer.

Notes to and forming part of the Financial Statements for the year ended 30 June 2010

Core operations
All material revenues described in this note are revenues relating to the core operating activities of ANSTO. Details of revenue amounts are given in Note 5.

Resources recieved free of charge
Resources received free of charge are recognised as revenue when and only when a fair value can be reliably determined and the services would have been purchased if they had not been donated. Use of those resources is recognised as an expense.

Resources received free of charge are recorded as either revenue or gains depending on their nature i.e. whether they have been generated in the course of the ordinary activities of ANSTO.

(g) Employee benefits

Benefits
Liabilities for services rendered by employees are recognised at the reporting date to the extent that they have not been settled.

Liabilities for wages and salaries and annual leave are measured at their nominal amounts. Other employees benefits expected to be settled within 12 months of their reporting date are also measured at their nominal amounts.

The provision for employee entitlements encompasses annual leave and long service leave that ANSTO has a present obligation to pay resulting from employee services provided up to balance date. The leave liabilities are calculated on the basis of employees' remuneration, including employer superannuation contribution rates to the extent that the leave is likely to be taken during service rather than paid out on termination. The estimate of the present value of the liability takes into account attrition rates and pay increases through promotion and inflation.

The nominal amount is calculated with regard to the rates expected to be paid on settlement of the liability. The current Enterprise Agreement pay rates applicable on 28 December 2010 are considered in the calculation. The financial effect of this was an additional accrual of $0.193 million (2009: $0.305 million).

General leave
The Enterprise Agreement provides under the heading General Leave for an employee entitlement which combines sick leave, carer's leave and leave for other prescribed purposes. No provision has been made for general leave as all such leave is non-vesting and the average general leave taken by employees is less than the annual entitlement.

Separation and redundancy
Provision is made for separation and redundancy benefits payments. ANSTO recognises a provision for termination when it has developed a detailed formal plan for the termination and has informed those employees affected that it will carry out the termination. The total provision in the accounts for 3 staff (2009: 2) amounted to $0.327 million (2009: $0.237 million).

(h) Superannuation

ANSTO contributes to the Commonwealth Superannuation (CSS) and the Public Sector superannuation (PSS) schemes or PSS accumulation plan (PSSap) which provide retirement, death and disability benefits to employees. The CSS and PSS are defined benefit schemes for the Commonwealth while the PSSap is a defined contribution scheme. Contributions to the schemes are at rates calculated to cover existing and emerging obligations. Applicable contribution rates in 2010 were 13.9% (2009: 12.5%) of salary (PSS), 19.1% (2009: 25.7%) of salary (CSS), and 15.4% (2009: 15.4%) of salary (PSSap). An additional 3% is contributed to PSS and CSS for employer productivity benefits. For those staff who do not contribute to any of these schemes, ANSTO contributes an amount equivalent to 9% of salary to the Australian Government Employees Superannuation Trust fund or to the complying fund nominated by the employee. The Enterprise Agreement signed in April 2009 provided that all ANSTO employees under the agreement who contributed to other than the Commonwealth superannuation schemes, are to receive a contribution equivalent to 15.4% of salary.

Contributions during the year are detailed in Note 6A. No liability is shown for superannuation in the Balance Sheet as the employer contributions fully extinguish the accruing liability which is assumed by the Commonwealth.

(i) Leases

Operating leases are expensed on a basis which is representative of the pattern of benefits derived from the leased assets.

(j) Cash

Cash and cash equivalents includes notes and coins held and any deposits held at call with a bank or financial institution. Cash is recognised at its nominal amount.

Notes to and forming part of the Financial Statements for the year ended 30 June 2010

(k) Financial instruments

ANSTO classifies its financial assets in the following categories:
• 'financial assets as 'at fair value through profit or loss',
• 'held-to-maturity investments',
• 'loans and receivables'.

The classification depends on the nature and purpose of the financial assets and is determined at the time of initial recognition.

Financial assets are recognised and derecognised upon 'trade date'.

Effective interest method
The effective interest method is a method of calculating the amortised cost of a financial asset and of allocating interest income over the relevant period. The effective interest rate is the rate that discounts estimated future cash receipts through the expected life of the financial asset, or, where appropriate, a shorter period.

Income is recognised on an effective interest rate basis except for financial assets 'at fair value through profit or loss'.

Financial assets at fair value through profit or loss
Financial assets are classified as financial assets at fair value through profit or loss where the financial assets have been acquired principally for the purpose of selling in the near future.

Financial assets at fair value through profit or loss are stated at fair value, with any resultant gain or loss recognised in the profit or loss. The net gain or loss recognised in the profit or loss incorporates any interest earned on the financial assets.

Where a reliable fair value cannot be established for unlisted investments in equity instruments, cost is used.
ANSTO has no such instruments.

Held-to-maturity investments
Non-derivative financial assets with fixed or determinable payments and fixed maturity dates that the group has the positive intent and ability to hold to maturity are classified as held-to-maturity investments. Held-to-maturity investments are recorded at amortised cost using the effective interest method less impairment, with revenue recognised on an effective yield basis.

Loans and receivables
Trade receivables, loans and other receivables that have fixed or determinable payments that are not quoted in an active market are classified as 'loans and receivables'. Loans and receivables are measured at amortised cost using the effective interest method less impairment. Interest is recognised by applying the effective interest rate.

Impairment of financial assets
Financial assets are assessed for impairment at each balance date.

Financial Liabilities
Financial liabilities are recognised and derecognised upon 'trade date'.

Other financial liabilities
Other financial liabilities, including borrowings, are initially measured at fair value, net of transaction costs.

Other financial liabilities are subsequently measured at amortised cost using the effective interest method, with interest expense recognised on an effective yield basis.

Notes to and forming part of the Financial Statements for the year ended 30 June 2010

The effective interest method is a method of calculating the amortised cost of a financial liability and of allocating interest expense over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash payments through the expected life of the financial liability, or, where appropriate, a shorter period.

Supplier and other payables
Supplier and other payables are recognised at amortised cost. Liabilities are recognised to the extent that the goods or services have been received (and irrespective of having been invoiced).

(l) Bad and doubtful debts

Bad debts are written off during the period in which they are identified. Allowance for doubtful debts is made when collection of the debt is judged to be less rather than more likely.

(m) Buildings, infrastructure, plant and equipment and major facilities

Asset recognition threshold
Items of buildings, infrastructure, plant and equipment and major facilities are recorded at cost of acquisition and depreciated as outlined below. Items of plant and equipment with a cost of less than $3,000 are expensed in the year of acquisition.

The initial cost of an asset includes an estimate of the cost of dismantling and removing the item and restoring the site on which it is located at the end of its useful life. This is particularly relevant to 'make good' provisions in buildings, infrastructure, plant and equipment and major facilities, taken up by ANSTO where there exists an obligation to restore the property to its original condition. These costs are included in the value of the asset it relates to with a corresponding provision for the 'make good' taken up.

Any changes to the initial decommissioning cost brought by adjustment to the consumer price index (cpi) and discount rate at 30 June each year will be reflected as an adjustment to the Provision for Decommissioning Cost and Asset Revaluation Reserve in accordance to the Department of Finance and Deregulation Accounting Guidance Note.

The cost of assets constructed by the entity includes the cost of materials, direct labour and an appropriate proportion of fixed and variable overheads.

Revaluations
Fair values for each class of asset are determined as shown below:

Asset Class	Fair value measured at
Land	Market Value
Buildings	Market Value
Site infrastructure	Market Value
Electrical infrastructure	Market Value
Plant and equipment	Market Value
National and major facilities	Market Value

Following initial recognition at cost, buildings, infrastructure, plant and equipment and major facilities are carried at fair value less accumulated depreciation and accumulated impairment losses. Valuations are conducted with sufficient frequency to ensure that the carrying amounts of assets do not differ materially from the assets' fair values as at the reporting date. The regularity of independent valuations depends upon the volatility of movements in market values for the relevant assets.

Revaluation adjustments are made on a class basis. Any revaluation increment is credited to equity under the heading of asset revaluation reserve except to the extent that it reverses a previous revaluation decrement of the same asset class that was previously recognised through profit and loss. Revaluation decrements for a class of assets are recognised directly through profit and loss except to the extent that they reverse a previous revaluation increment for that class.

Any accumulated depreciation as at the revaluation date is eliminated against the gross carrying amount of the asset and the asset restated to the revalued amount.

Notes to and forming part of the Financial Statements for the year ended 30 June 2010

The valuations of land, buildings, infrastructure, plant and equipment including national and other major facilities were performed by independent valuers of the Australian Valuation Office (AVO), Mr. Frank Andreatta and Mr. Simon O'Leary (registered Valuer Nos. 2388 and 1128 respectively) at 30 June 2007, based on the asset list at 28 February 2007.

Certain assets (Note 8Bi) are valued at Board Valuation effective 30 June 2007.

The OPAL and NBI valuations were performed by Mr. Simon O'Leary (registered Valuer No. 1128) of AVO based on the asset list at 31 May 2009.

Depreciation and amortisation
Items of buildings, infrastructure, plant and equipment and major facilities, but excluding freehold land, are depreciated over their estimated useful lives to ANSTO using the straight line method.

Depreciation and amortisation rates applying to each class of depreciable asset are based on the following useful lives:

	2010	2009
Buildings on freehold land	**5 to 50 years**	5 to 50 years
Plant and equipment	**2 to 30 years**	2 to 30 years
Infrastructure	**20 years**	20 years
National and major facilities	**5 to 40 years**	5 to 40 years

The depreciation rates (useful lives) of ANSTO's buildings, infrastructure, plant and equipment and major facilities have been reviewed during the year and found to be appropriate.

The aggregate amount of depreciation allocated for each class of asset during the reporting period is disclosed in Note 6C.

Impairment
All assets were assessed for impairment at 30 June 2010. Where indications of impairment exist, the asset's recoverable amount is estimated and an impairment adjustment made if the asset's recoverable amount is less than its carrying amount.

(n) Inventories

Stores are valued at purchase cost on a first-in-first-out basis. Provision is made for obsolete inventory and diminution in value.

Inventories of Cobalt-60 and enriched, natural and depleted uranium are valued on the basis of net realisable value.

Stocks of reactor fuel are valued at average purchase price.

Heavy water is valued at net realisable value.

Finished goods and work in progress are valued at cost of direct materials and labour plus attributable costs that are capable of being allocated on a reasonable basis.

(o) Intangibles

Software
Items of software are recorded at cost and amortised as outlined below. Items with a cost of less than $3,000 are expensed in the year of acquisition.

There is no material internal software development.

Software and licences are reported at deemed cost.

Notes to and forming part of the Financial Statements for the year ended 30 June 2010

Amortisation
Intangibles are amortised over their estimated useful lives to ANSTO using the straight line method.

Amortisation rates applying to intangibles are as follows:

	2010	2009
Purchased software	2 - 7 years	2 - 7 years
Licences	3 years	3 years

The amortisation rates (useful lives) of ANSTO's software and licences have been reviewed during the year and found to be appropriate.

The aggregate amount of amortisation allocated for each class of asset during the reporting period is disclosed in Note 6C.

Impairment
All assets were assessed for impairment at 30 June 2010. Where indications of impairment exist, the asset's recoverable amount is estimated and an impairment adjustment made if the asset's recoverable amount is less than its carrying amount.

(p) Patents

Due to the uncertain commercial value of patents, trademarks, designs and applications, and because benefits extending beyond one accounting period cannot be assured, the costs associated with the development and registration of patents are expensed in the year in which they are incurred, unless recoverability is assured beyond any reasonable doubt. At 30 June 2010 there were 98 patents, trademarks, design and applications (208 at 30 June 2009) registered to ANSTO and no associated costs are recognised as an asset (nil at 30 June 2009).

(q) Foreign currency

Transactions denominated in a foreign currency are converted to Australian currency at the rate of exchange prevailing at the date of the transaction. At balance date, amounts receivable and payable in foreign currency are translated to Australian currency at the exchange rate prevailing at that date and any exchange differences are brought to account in the Comprehensive Income Statement. ANSTO did not enter into speculative forward exchange contracts during the reporting period.

(r) Taxation

ANSTO is exempt from all forms of taxation in Australia except fringe benefits tax (FBT) and the goods and services tax (GST).
ANSTO is not subject to exemption from any foreign taxation laws relative to its overseas operations.
ANSTO's subsidiaries are subject to normal taxation.
ANSTO Inc, a USA company, has recognised a Deferred Tax Asset of USD 369,000 or AUD 432,000 (2009: USD 251,000 or AUD 318,000).

Subsidiaries
Unbooked deferred tax assets in relation to unrecouped tax losses in the subsidiaries is $320,037 (2009: $778,192).

In respect of the subsidiaries, current tax assets and liabilities for the current and prior periods are measured at the amount expected to be recovered from or paid to the taxation authorities based on the current period's taxable income. The tax rates and tax laws used to compute the amount are those that are enacted or substantively enacted by the balance sheet date.

Deferred income tax is provided on all temporary differences at the balance sheet date between the tax bases of assets and liabilities and their carrying amounts for financial reporting purposes.

Deferred income tax liabilities are recognised for all taxable temporary differences except:
- when the deferred income tax liability arises from the initial recognition of goodwill or of an asset or liability in a transaction that is not a business combination and that, at the time of the transaction, affects neither the accounting profit nor taxable profit or loss; or
- when the taxable temporary difference is associated with investments in subsidiaries, associates or interests in joint ventures, and the timing of the reversal of the temporary difference can be controlled and it is probable that the temporary difference will not reverse in the foreseeable future.

Notes to and forming part of the Financial Statements for the year ended 30 June 2010

Deferred income tax assets are recognised for all deductible temporary differences, carry forward of unused tax credits and unused tax losses, to the extent that it is probable that taxable profit will be available against which the deductible temporary differences and the carry forward of unused tax credits and unused tax losses can be utilised, except:

- when the deferred income tax asset relating to the deductible temporary difference arises from the initial recognition of an asset or liability in a transaction that is not a business combination and, at the time of the transaction, affects neither the accounting profit nor taxable profit or loss; or
- when the deductible temporary difference is associated with investments in subsidiaries, associates or interests in joint ventures, in which case a deferred tax asset is only recognised to the extent that it is probable that the temporary difference will reverse in the foreseeable future and taxable profit will be available against which the temporary difference can be utilised.

Unrecognised deferred income tax assets are reassessed at each balance sheet date and are recognised to the extent that it has become probable that future taxable profit will allow the deferred tax asset to be recovered.
Deferred income tax assets and liabilities are measured at the tax rates that are expected to apply to the year when the asset is realise or the liability is settled, based on tax rates (and tax laws) that have been enacted or substantively enacted at the balance sheet date.

Deferred tax assets and deferred tax liabilities are offset only if a legally enforceable right exists to set off current tax assets against current tax liabilities and the deferred tax assets and liabilities relate to the same taxable entity and the same taxation authority.

(s) Principles of consolidation

ANSTO has investments in a number of companies (refer Note 7D) over which it has control. These companies have been established for the purpose of (i) commercialisation of ANSTO's intellectual property or (ii) a requirement for ANSTO to operate in the industry as in the case of ANSTO Inc., an operation in the U.S.A..

(t) Comparatives

Where necessary, comparative information for the preceding financial year has been reclassified to achieve consistency in disclosure with current financial year amounts and other disclosures.

(u) Rounding

Amounts are rounded to the nearest one thousand dollars except in relation to:

- remuneration of members of the Board
- remuneration of executives
- audit fees
- financial information about the subsidiary companies and their balances

3 Events subsequent to reporting date

No events have arisen since the end of the financial year which require disclosure or the financial statements to be adjusted.

Notes to and forming part of the Financial Statements for the year ended 30 June 2010

4 Segment and outcomes reporting

Reporting by segments for Parent Entity

ANSTO operates in a single industry mainly within Australia, namely in the nuclear scientific research industry.

Reporting by outcomes:

For 2009-10 ANSTO has only one outcome, Outcome 1 (2008-09 Outcome 3). The previous Outcome 1 (constructing the OPAL reactor) was completed in 2007-08 and Outcome 2 (Spent Fuel) in 2008-09.

Major Classes of Departmental Revenues and Expenses by Outcome - Parent Entity

	Outcome				Total	
	2	**2**	**1**	**3**		
	2010	2009	**2010**	2009	**2010**	2009
	$'000	$'000	**$'000**	$'000	**$'000**	$'000
Operating revenues						
Revenue from Government	**-**	10,079	**155,240**	163,036	**155,240**	173,115
Sale of goods and services	**-**	**-**	**47,373**	44,004	**47,373**	44,004
Interest	**-**	**-**	**7,033**	9,167	**7,033**	9,167
Net gain from sale of assets	**-**	**-**	**634**	354	**634**	354
Other	**-**	**-**	**25,267**	2,528	**25,267**	2,528
Total operating revenues	**-**	10,079	**235,547**	219,089	**235,547**	229,168
Operating expenses						
Employees	**-**	561	**90,341**	86,533	**90,341**	87,094
Suppliers	**-**	8,569	**69,684**	63,064	**69,684**	71,633
Depreciation and amortisation	**-**	**-**	**54,116**	59,010	**54,116**	59,010
Finance costs	**-**	**-**	**4,941**	8,258	**4,941**	8,258
Write-down and impairment of assets	**-**	**-**	**1,202**	6,849	**1,202**	6,849
Other	**-**	**-**	**4,330**	3,651	**4,330**	3,651
Total operating expenses	**-**	9,130	**224,614**	227,365	**224,614**	236,495

Notes:

The net costs include intra - Government costs that would be eliminated in calculating the actual Budget outcome.

Notes to and forming part of the Financial Statements for the year ended 30 June 2010

		Notes	FINANCIAL YEAR Consolidated 2010 $'000	Consolidated 2009 $'000	ANSTO 2010 $'000	ANSTO 2009 $'000
5	**Income**					
5A.	**Revenue from Government**					
	CAC Act payments from DIISR		**155,240**	173,115	**155,240**	173,115
5B.	**Goods and services**					
	Radioisotope sales		**22,623**	21,367	**22,650**	21,367
	Services and contract research		**17,027**	15,905	**16,634**	15,153
	Silicon irradiation		**2,883**	1,271	**2,883**	1,271
	CSIRO site support		**1,080**	1,025	**1,080**	1,025
	Training courses		**207**	152	**207**	156
	Land management		**3,039**	3,044	**3,118**	3,129
	Australian Synchrotron Research Project		**85**	1,030	**85**	1,030
	AINSE interactions		**716**	873	**716**	873
	Total sales of goods and services		**47,660**	44,667	**47,373**	44,004
5C.	**Grants**		**24,222**	1,916	**24,222**	1,906
5D.	**Interest**		**6,268**	8,449	**7,033**	9,167
5E.	**Net gain from sale of assets**					
	Revenue from sale of assets		**1,287**	1,248	**1,287**	1,248
	Net book value of assets sold		**(653)**	(894)	**(653)**	(894)
	Net gain from disposal of infrastructure, plant and equipment		**634**	354	**634**	354
5F.	**Net foreign exchange gains - non speculative**		**949**	463	**937**	434
5G.	**Other income:**					
	Gain from Revaluation		**61**	-	**61**	-
	Other		**47**	188	**47**	188
	Total other income		**108**	188	**108**	188
	Total operating revenue from independent sources		**79,841**	56,037	**80,307**	56,053
	Total revenues from ordinary activities		**235,081**	229,152	**235,547**	229,168
5H.	**Sales of goods and services**					
	Goods		**22,623**	21,367	**22,650**	21,367
	Services		**25,037**	23,300	**24,723**	22,637
	Total sales of goods and services	5B	**47,660**	44,667	**47,373**	44,004
	Provision of goods to:					
	Related entities		**-**	-	**-**	-
	External entities		**22,623**	21,367	**22,650**	21,367
	Total sales of goods		**22,623**	21,367	**22,650**	21,367
	Rendering of services to:					
	Related entities		**1,686**	1,158	**1,686**	1,158
	External entities		**23,351**	22,142	**23,037**	21,479
	Total rendering of services		**25,037**	23,300	**24,723**	22,637

Notes to and forming part of the Financial Statements for the year ended 30 June 2010

			FINANCIAL YEAR			
			Consolidated		ANSTO	
			2010	2009	2010	2009
6	**Expenses**	**Notes**	**$'000**	$'000	**$'000**	$'000
	The breakdown of operating expenses is:					
6A.	**Employee expenses:**					
	Salaries		**67,473**	64,787	**67,713**	65,507
	Superannuation		**12,827**	10,845	**12,810**	10,845
	Annual leave		**6,379**	5,888	**6,338**	5,888
	Long service leave		**2,571**	2,105	**2,566**	2,105
	Separation and redundancy		**914**	2,749	**914**	2,749
	Total employee expenses		**90,164**	86,374	**90,341**	87,094
6B.	**Supplier expenses:**					
	Goods from related entities		**-**	-	**-**	-
	Goods from external entities		**28,480**	29,755	**28,335**	29,694
	Services from related entities		**19,755**	16,882	**19,755**	16,882
	Workers compensation premiums		**1,078**	1,027	**1,076**	1,017
	Services from external entities		**21,683**	26,671	**20,509**	23,725
	Operating lease rentals		**9**	311	**9**	315
	Total supplier expenses		**71,005**	74,646	**69,684**	71,633
6C.	**Depreciation and amortisation**					
	Depreciation of property, plant and equipment (a)	8B	**51,387**	58,009	**51,081**	57,934
	Amortisation of intangible assets - licence	8D	**105**	3	**105**	3
	Amortisation of intangible assets - software	8D	**2,930**	1,073	**2,930**	1,073
	Total depreciation and amortisation		**54,422**	59,085	**54,116**	59,010
6D.	**Write-down and impairment of assets**					
	Financial assets:					
	Receivables for goods and services		**12**	2	**12**	2
	Foreign exchange loss - non speculative					
	-realised		**451**	528	**405**	508
	-unrealised		**(98)**	(121)	**(98)**	(121)
	Write-down of investment in subsidiaries		**-**	-	**-**	5,786
	Non financial assets:					
	Materials - write off obsolete stock		**5**	-	**5**	-
	Loss from sale of assets		**878**	339	**878**	339
	Fixed assets revaluation write-down/impairment		**-**	106	**-**	-
	Nuclear material stock devaluation		**-**	335	**-**	335
	Loss on sale of subsidiary		**870**	-	**-**	-
	Total write-down of assets		**2,118**	1,189	**1,202**	6,849
6E.	**Grants**		**4,330**	3,651	**4,330**	3,651
6F.	**Finance costs**					
	Unwinding of discount on decommissioning costs		**4,743**	8,072	**4,743**	8,072
	Interest		**198**	186	**198**	186
			4,941	8,258	**4,941**	8,258
	Total operating expenses		**226,980**	233,203	**224,614**	236,495
(a)	Depreciation of property, plant and equipment:					
	The aggregate amounts of depreciation expensed during the reporting period for each depreciable class of property, plant and equipment are as follows:					
	Buildings on freehold land		**7,405**	6,899	**7,322**	6,899
	Plant and equipment		**15,286**	21,012	**15,134**	20,937
	Infrastructure		**2,535**	2,488	**2,535**	2,488
	National and major facilities		**26,161**	27,610	**26,090**	27,610
	Total allocated		**51,387**	58,009	**51,081**	57,934

Notes to and forming part of the Financial Statements for the year ended 30 June 2010

		FINANCIAL YEAR			
		Consolidated		ANSTO	
		2010	2009	2010	2009
		$'000	$'000	$'000	$'000
7	**Financial assets**				
7A.	**Cash**				
	Cash at bank for operating needs	**5,023**	3,752	**2,699**	3,265
	Total cash	**5,023**	3,752	**2,699**	3,265
7B.	**Receivables**				
	Goods and services (a)	**6,431**	6,193	**6,574**	6,338
	Less provision for doubtful debts (b)	**15**	36	**15**	36
		6,416	6,157	**6,559**	6,302
	Interest accrued	**1,648**	1,364	**3,070**	1,985
	Reimbursable foreign exchange loss	**-**	-	**-**	-
	Other	**471**	1,095	**460**	1,115
	Loans to related parties	**-**	-	**11,261**	5,977
	GST receivable	**510**	941	**502**	797
	Total receivables (net)	**9,045**	9,557	**21,852**	16,176
(a)	Goods and services (trade debtors)				
	Age analysis of trade debtors				
	Current	**5,131**	3,698	**5,150**	3,781
	Overdue:				
	Less than 30 days	**505**	1,678	**521**	1,749
	30 to 60 days; and	**273**	623	**381**	617
	60 to 90 days	**351**	46	**351**	43
	More than 90 days	**171**	148	**171**	148
		6,431	6,193	**6,574**	6,338

(b) The provision for doubtful debts represents certain debts aged more than 90 days (2009: aged more than 90 days).

7C.	**Investments**				
	Bank bills	**129,000**	88,000	**129,000**	88,000
	Treasury Bonds	**-**	39,979	**-**	39,979
	Term deposit	**-**	9,682	**-**	9,000
	Investment in Australian Synchrotron	**5,000**	5,000	**5,000**	5,000
	Investment in PETNET Australia Pty Limited	**-**	-	**5,000**	5,000
	Total investments	**134,000**	142,661	**139,000**	146,979

7D. Investment in subsidiaries

The details of the subsidiaries of ANSTO are:

Name	Place of Incorporation	% Owned	Investment		Loan/Convertible Notes	
			2010	2009	2010	2009
			$	$	$	$
CeramiSphere Pty Limited	Australia	100%	**-**	1	**-**	-
Australian Membrane Technologies Pty. Limited	Australia	100%	**1**	1	**-**	-
PETNET Australia Pty Limited	Australia	100%	**5,000,000**	5,000,000	**10,000,000**	5,000,000
ANSTO Inc.	Delaware U.S.A.	100%	**-**	-	**1,255,566**	976,812
			5,000,001	5,000,002	**11,255,566**	5,976,812

ANSTO Inc. was incorporated in Delaware, USA on 27 October 1999. At 30 June 2010: USD100 (2009: USD100). of capital has been invested in this wholly owned subsidiary. This investment has been written off in prior periods.

In November 2004, the Board decided to utilise ANSTO Inc, to promote the commercialisation of ANSTO Technology in the USA.

The loan to ANSTO Inc. is denominated in US dollars, USD1,070,118 (2009: USD770,118), as part of a USD2,400,000 (2009: USD2,400,000) facility which expires on 31 Dec 2012 (2009: 31 Dec 2009).

The Investment (including loans) in Australian Membrane Technology Pty. Ltd was considered impaired and hence fully provided as at 30 June 2009.

CeramiSphere Pty Ltd was disposed of during the year.

Notes to and forming part of the Financial Statements for the year ended 30 June 2010

		FINANCIAL YEAR			
		Consolidated		ANSTO	
		2010	2009	**2010**	2009
		$'000	$'000	**$'000**	$'000
8	**Non-financial assets**				
8A.	**Land and buildings**				
	Land - at independent valuation - 30 June 2007 (fair value)	**78,700**	78,700	**78,700**	78,700
		78,700	78,700	**78,700**	78,700
	Buildings - at cost	**47,351**	21,054	**41,289**	21,054
	Less accumulated depreciation	**17,145**	14,961	**17,062**	14,961
		30,206	6,093	**24,227**	6,093
	Buildings - at independent valuation - 30 June 2007 (fair value)	**83,316**	83,316	**83,316**	83,316
	Less accumulated depreciation	**15,685**	10,464	**15,685**	10,464
		67,631	72,852	**67,631**	72,852
	Building under construction	**19,973**	-	**19,973**	-
	Total buildings	**117,810**	78,945	**111,831**	78,945
	Total land and buildings	**196,510**	157,645	**190,531**	157,645
8B.	**Infrastructure, plant, equipment and major facilities**				
	8B(i). Plant and equipment				
	Plant and equipment - at cost	**228,074**	101,789	**225,946**	101,328
	Less accumulated depreciation	**60,971**	52,111	**60,853**	52,040
		167,103	49,678	**165,093**	49,288
	Plant and equipment - at independent valuation - 30 June 2007 (fair value)	**60,274**	62,697	**60,274**	62,697
	Less accumulated depreciation	**30,379**	26,053	**30,379**	26,053
		29,895	36,644	**29,895**	36,644
	Plant and equipment - at Directors valuation - 30 June 2007 (fair value)	**-**	1,029	**-**	1,029
	Less accumulated depreciation	**-**	428	**-**	428
		-	601	**-**	601
	Plant and equipment under construction	**27,863**	41,539	**27,842**	32,034
	Total plant and equipment	**224,861**	128,462	**222,830**	118,567
	8B(ii). Infrastructure				
	Electrical/site services facilities - at cost	**1,699**	1,411	**1,699**	1,411
	Less accumulated depreciation	**195**	155	**195**	155
		1,504	1,256	**1,504**	1,256
	Electrical/site services facilities at independent valuation - 30 June 2007 (fair value)	**28,006**	28,014	**28,006**	28,014
	Less accumulated depreciation	**7,279**	4,783	**7,279**	4,783
		20,727	23,231	**20,727**	23,231
	Total infrastructure	**22,231**	24,487	**22,231**	24,487

Notes to and forming part of the Financial Statements for the year ended 30 June 2010

8 Non-financial assets (continued)

	FINANCIAL YEAR			
	Consolidated		ANSTO	
	2010	2009	**2010**	2009
	$'000	$'000	**$'000**	$'000
8B(iii). Major national and major research facilities				
Major national research facilities - at cost	**4,988**	830	**798**	830
Less accumulated depreciation	**127**	60	**56**	60
	4,861	770	**742**	770
Major national research facilities at independent valuation - 30 June 2007 (fair value)	**2,825**	5,645	**2,825**	5,645
Less accumulated depreciation	**457**	2,699	**457**	2,699
	2,368	2,946	**2,368**	2,946
Major research facilities at cost	**143**	73	**143**	73
Less accumulated depreciation	**8**	16	**8**	16
	135	57	**135**	57
Major research facilities at independent valuation - 30 June 2007 (fair value)	**6,239**	6,257	**6,239**	6,257
Less accumulated depreciation	**2,101**	1,388	**2,101**	1,388
	4,138	4,869	**4,138**	4,869
OPAL nuclear research reactor at cost	**4,816**	594	**4,816**	594
Less accumulated depreciation	**113**	7	**113**	7
	4,703	587	**4,703**	587
OPAL nuclear research reactor at independent valuation - 30 June 2009 (fair value)	**450,084**	450,121	**450,084**	450,121
Less accumulated depreciation	**24,726**	-	**24,726**	-
	425,358	450,121	**425,358**	450,121
Total major national and major research facilities	**441,563**	459,350	**437,444**	459,350
Total infrastructure, plant, equipment and major facilities	**688,655**	612,299	**682,505**	602,404
Total land, buildings, infrastructure, plant, equipment and major facilities	**885,165**	769,944	**873,036**	760,049

Notes to and forming part of the Financial Statements for the year ended 30 June 2010

8 Non-financial assets (continued)

Movement summary 2009-2010 for all consolidated assets irrespective of valuation basis (excluding intangibles)

	Land	Buildings	Total Land and Buildings	Infrastructure, plant, equipment national and major facilities	Total
	$'000	$'000	$'000	$'000	$'000
Gross value as at 1 July 2009	78,700	104,370	183,070	751,108	934,178
Additions - new assets	-	18,266	18,266	42,185	60,451
Net revaluation decrement	-	-	-	(51,109)	(51,109)
Decommissioning Cost	-	10,869	10,869	104,213	115,082
Transfers/reclassifications	-	17,135	17,135	(20,417)	(3,282)
Disposals	-	-	-	(10,969)	(10,969)
Gross value as at 30 June 2010	78,700	150,640	229,340	815,011	1,044,351
Accumulated depreciation/ amortisation 1 July 2009	-	25,425	25,425	138,810	164,235
Depreciation/amortisation	-	7,405	7,405	43,982	51,387
Net revaluation decrement	-	-	-	(51,109)	(51,109)
Adjustment for disposals	-	-	-	(5,327)	(5,327)
Accumulated depreciation/ amortisation 30 June 2010	-	32,830	32,830	126,356	159,186
Net book value as at 30 June 2010	78,700	117,810	196,510	688,655	885,165

Movement summary 2008-2009 for all consolidated assets irrespective of valuation basis (excluding intangibles)

	Land	Buildings	Total Land and Buildings	Infrastructure, plant, equipment national and major facilities	Total
	$'000	$'000	$'000	$'000	$'000
Gross value as at 1 July 2008	78,700	107,951	186,651	726,401	913,052
Additions - new assets	-	695	695	41,611	42,306
Net revaluation increment	-	-	-	48,332	48,332
Decommissioning Cost	-	-	-	(65,919)	(65,919)
Transfers/reclassifications	-	(4,276)	(4,276)	3,004	(1,272)
Disposals	-	-	-	(2,320)	(2,320)
Gross value as at 30 June 2009	78,700	104,370	183,070	751,108	934,178
Accumulated depreciation/ amortisation 1 July 2008	-	13,043	13,043	93,859	106,902
Depreciation/amortisation	-	6,899	6,899	51,110	58,009
Transfers/reclassifications	-	5,483	5,483	(5,495)	(12)
Adjustment for disposals	-	-	-	(664)	(664)
Accumulated depreciation/ amortisation 30 June 2009	-	25,425	25,425	138,810	164,235
Net book value as at 30 June 2009	78,700	78,945	157,645	612,299	769,944

Notes to and forming part of the Financial Statements for the year ended 30 June 2010

	FINANCIAL YEAR			
	Consolidated		ANSTO	
	2010	2009	**2010**	2009
	$'000	$'000	**$'000**	$'000
8C. Inventories				
Raw materials and stores-not held for resale				
Stores - at cost	**2,240**	1,855	**2,214**	1,855
Cobalt-60 sources - at net realisable value	**245**	279	**245**	279
Reactor fuel and heavy water - at average purchase price	**10,593**	5,765	**10,593**	5,765
Nuclear materials - at net realisable value	**134**	221	**134**	221
Provision for stock diminution	**(309)**	(86)	**(309)**	(86)
	12,903	8,034	**12,877**	8,034
Work in progress - at cost	**584**	477	**584**	477
Finished goods - at cost	**297**	200	**297**	200
Total inventories	**13,784**	8,711	**13,758**	8,711
8D. Intangibles				
Licences at deemed cost	**1,009**	1,009	**1,009**	1,009
Less accumulated amortisation	**1,009**	1,009	**1,009**	1,009
	-	-	**-**	-
Design fees at cost	**466**	-	**466**	-
Less accumulated amortisation	**104**	-	**104**	-
	362	-	**362**	-
Software at cost	**18,217**	12,430	**18,206**	12,430
Less accumulated amortisation	**14,015**	9,232	**14,013**	9,232
	4,202	3,198	**4,193**	3,198
Software at deemed cost	**250**	2,348	**250**	2,348
Less accumulated amortisation	**242**	2,348	**242**	2,348
	8	-	**8**	-
Software under construction	**10,845**	2,043	**10,844**	2,043
Total intangibles	**15,417**	5,241	**15,407**	5,241

Notes to and forming part of the Financial Statements for the year ended 30 June 2010

Movement summary 2009-2010 for all consolidated intangibles irrespective of valuation basis

	Licenses	Software	Total
	$'000	$'000	$'000
Gross value as at 1 July 2009	1,009	16,834	17,843
Additions - new assets	-	10,286	10,286
Transfer/Reclassification	-	3,282	3,282
Disposals	-	(625)	(625)
Gross value as at 30 June 2010	1,009	29,777	30,786
Accumulated depreciation/ amortisation 1 July 2009	1,009	11,593	12,602
Depreciation/amortisation	-	3,035	3,035
Adjustment for disposals	-	(268)	(268)
Accumulated depreciation/ amortisation 30 June 2010	1,009	14,360	15,369
Net book value as at 30 June 2010	-	15,417	15,417

Movement summary 2008-2009 for all consolidated intangibles irrespective of valuation basis

	Licenses	Software	Total
	$'000	$'000	$'000
Gross value as at 1 July 2008	1,009	12,018	13,027
Additions - new assets	-	3,544	3,544
Transfer/Reclassification	-	1,272	1,272
Gross value as at 30 June 2009	1,009	16,834	17,843
Accumulated depreciation/ amortisation 1 July 2008	1,006	10,508	11,514
Depreciation/amortisation	3	1,073	1,076
Transfer/Reclassification	-	12	12
Accumulated depreciation/ amortisation 30 June 2009	1,009	11,593	12,602
Net book value as at 30 June 2009	-	5,241	5,241

	FINANCIAL YEAR			
	Consolidated		ANSTO	
	2010	2009	2010	2009
	$'000	$'000	$'000	$'000
8E. Other				
Deferred tax asset	433	318	-	-
Prepayments	6,226	4,086	6,214	3,634
	6,659	4,404	6,214	3,634
Total non-financial assets	921,025	788,300	908,415	777,635

Notes to and forming part of the Financial Statements for the year ended 30 June 2010

		FINANCIAL YEAR			
		Consolidated		ANSTO	
9	**Liabilities**	**2010**	2009	**2010**	2009
		$'000	$'000	**$'000**	$'000
9A.	**Interest bearing liabilities**				
	Other (a)	**3,497**	3,308	**3,497**	3,308
	Total interest bearing liabilities	**3,497**	3,308	**3,497**	3,308
	Provision				
9B.	**Employees**				
	Annual leave	**9,174**	8,666	**9,132**	8,645
	Long service leave	**16,313**	14,547	**16,308**	14,547
		25,487	23,213	**25,440**	23,192
9C	**Decommissioning cost**				
	Decommissioning cost	**160,542**	119,374	**160,542**	119,374
		160,542	119,374	**160,542**	119,374
9D	**Other**				
	Waste management cost (b)	**-**	1,605	**-**	1,605
	Other claims (c)	**270**	402	**268**	402
		270	2,007	**268**	2,007
	Total provision	**186,299**	144,594	**186,250**	144,573
	Payables				
9E	**Suppliers**				
	Trade creditors	**12,578**	8,263	**12,759**	8,150
		12,578	8,263	**12,759**	8,150
9F	**Employees**				
	Accrued salaries and wages	**2,347**	1,168	**2,329**	1,162
	Incentives	**468**	441	**468**	441
		2,815	1,609	**2,797**	1,603
9G	**Grants**				
	Non-profit entities	**562**	575	**562**	575
		562	575	**562**	575
9H	**Other**				
	Revenue received in advance	**1,557**	1,171	**1,557**	1,171
		1,557	1,171	**1,557**	1,171
	Total payables	**17,512**	11,618	**17,675**	11,499
	Total liabilities	**207,308**	159,520	**207,422**	159,380

Notes:
(a) Relates to prepaid revenue under a lease of property.

(b) A specific appropriation to cover costs associated with the movement of low level waste to a repository yet to be established.

(c) The 2010 provision includes ANSTO Health customer volume discounts. Whilst in 2009 the provision includes costs to cover for redundancy due to restructuring.

Notes to and forming part of the Financial Statements for the year ended 30 June 2010

Provision movement reconciliation (Consolidated)

	Provision for Decommissioning Costs $'000	Provision for Waste Management Costs $'000	Provision for Other Claims $'000
Carrying amount 1 July 2009	**119,374**	**1,605**	**402**
Provisions not required	-	**(1,605)**	-
Amounts used	**(5,525)**	-	**(132)**
Change in accounting estimate	**41,950**	-	-
Unwinding discount	**4,743**	-	-
Closing balance 30 June 2010	**160,542**	**-**	**270**

Notes to and forming part of the Financial Statements for the year ended 30 June 2010

	FINANCIAL YEAR			
	Consolidated		ANSTO	
	2010	2009	**2010**	2009
	$'000	$'000	**$'000**	$'000
10 Equity				
Contributed equity				
Replacement research reactor equity injections				
Balance 1 July	**385,836**	385,836	**385,836**	385,836
Balance 30 June	**385,836**	385,836	**385,836**	385,836
Other equity injections				
Balance 1 July	**62,020**	60,420	**62,020**	60,420
Equity injections from Government - Other	**-**	1,600	**-**	1,600
Balance 30 June	**62,020**	62,020	**62,020**	62,020
Total contributed equity	**447,856**	447,856	**447,856**	447,856
Reserves, including movements				
Asset revaluation reserve				
Balance 1 July	**277,711**	229,248	**277,567**	229,239
Revaluation adjustment	**68,791**	48,463	**68,936**	48,328
Balance 30 June	**346,502**	277,711	**346,503**	277,567
OPAL depreciation reserve				
Balance 1 July	**9,061**	35,258	**9,061**	35,258
Transferred to retained surpluses (a)	**-**	(26,197)	**-**	(26,197)
Balance 30 June	**9,061**	9,061	**9,061**	9,061
Reactor licensing reserve				
Balance 1 July	**-**	1,500	**-**	1,500
Transferred to retained surpluses (b)	**-**	(1,500)	**-**	(1,500)
Balance 30 June	**-**	-	**-**	-
Regional security of radioactive reserve				
Balance 1 July	**629**	757	**629**	757
Transferred from/(to) retained surpluses (c)	**310**	(128)	**310**	(128)
Balance 30 June	**939**	629	**939**	629
Nuclear & radiological security reserve				
Balance 1 July	**539**	360	**539**	360
Transferred from retained surpluses (d)	**-**	179	**-**	179
Balance 30 June	**539**	539	**539**	539

Notes to and forming part of the Financial Statements for the year ended 30 June 2010

		FINANCIAL YEAR			
		Consolidated		ANSTO	
		2010	2009	**2010**	2009
		$'000	$'000	**$'000**	$'000
Low Dose Nuclear Waste Repository					
Balance 1 July		**3,032**	3,032	**3,032**	3,032
Transferred from retained surpluses (e)		**1,179**	-	**1,179**	-
Balance 30 June		**4,211**	3,032	**4,211**	3,032
Foreign currency reserve					
Balance 1 July		**(3)**	(22)	**-**	-
Movement		**16**	19	**-**	-
Balance 30 June		**13**	(3)	**-**	-
Other reserve					
Balance 1 July		**150**	-	**-**	-
Movement		**(11)**	150	**-**	-
Balance 30 June		**139**	150	**-**	-
Total reserves		**361,404**	291,119	**361,253**	290,828
Retained surpluses					
Retained surpluses 1 July		**45,775**	22,234	**45,991**	25,672
Transfer (to)/from OPAL depreciation reserve	(a)	**-**	26,197	**-**	26,197
Transfer from reactor licensing reserve	(b)	**-**	1,500	**-**	1,500
Transfer from regional security of radioactive reserve	(c)	**(310)**	128	**(310)**	128
Transfer to nuclear & radiological security reserve	(d)	**-**	(179)	**-**	(179)
Transfer to Low Dose Nuclear Waste Repository	(e)	**(1,179)**	-	**(1,179)**	-
Transfer to other reserve		**-**	(150)	**-**	-
(Deficit)/Surplus		**8,239**	(3,955)	**10,933**	(7,327)
Retained surpluses 30 June		**52,525**	45,775	**55,435**	45,991
Total equity		**861,785**	784,750	**864,544**	784,675

(a) OPAL depreciation reserve
This reserve represents unused funding for OPAL depreciation. This was due to a delay in final commissioning of OPAL.

(b) Reactor licensing reserve
This reserve is to meet future licensing costs for decommissioning the HIFAR reactor and MOATA. This reserve has now been fully utilised.

(c) Regional security of radioactive materials reserve
This represents unused funding from prior years. This is due to delays in participation by some regional countries.

(d) Nuclear and radiological security reserve
This reserve relates to funding which started in 2009-10 and will run through up to 2010-11.

(e) Low Dose Nuclear Waste Repository
This reserve relates to funding for low level waste facility at ANSTO for its own use and used by other Commonwealth agencies.

Notes to and forming part of the Financial Statements for the year ended 30 June 2010

11 Cash flow reconciliation

	FINANCIAL YEAR			
	Consolidated		ANSTO	
	2010	2009	**2010**	2009
	$'000	$'000	**$'000**	$'000
Reconciliation of Operating Surplus (Deficit) to Net Cash from Operating Activities:				
Operating surplus / (deficit)	**8,101**	(4,051)	**10,933**	(7,327)
Non-cash items				
Depreciation/amortisation	**54,422**	59,085	**54,116**	59,010
Net write-down of Investment	**-**	-	**-**	5,786
Net loss on disposal of non-financial assets	**243**	104	**243**	(15)
Nuclear materials devaluation	**-**	335	**-**	335
Unrealised foreign exchange gain	**(98)**	(121)	**(98)**	(121)
Unwinding of Discount - decommissioning costs	**4,743**	8,072	**4,743**	8,072
Loss on sale of subsidiary (a)	**870**	-	**-**	-
Changes in assets and liabilities				
Increase in goods and services receivables	**(259)**	(637)	**(257)**	(568)
(Increase)/Decrease in other receivables	**1,191**	904	**1,337**	(539)
(Increase)/Decrease in GST receivables	**431**	(180)	**296**	(86)
(Increase)/Decrease in accrued interest	**(284)**	(937)	**(1,085)**	64
(Increase) in prepayments	**(2,140)**	(2,355)	**(2,580)**	(2,306)
(Increase) in inventories	**(5,073)**	(675)	**(5,047)**	(675)
Increase/(Decrease) in payables	**4,413**	(871)	**4,694**	(783)
Increase/(Decrease) in employee entitlements	**3,480**	(954)	**3,442**	(981)
Increase in revenue received in advance	**373**	424	**386**	424
Increase in reserves	**(1,018)**	-	**-**	-
(Decrease) in other provision	**(1,737)**	(2,564)	**(1,739)**	(2,564)
(Decrease) in decommissioning cost provision	**(5,525)**	(4,536)	**(5,525)**	(4,536)
Increase in interest bearing liabilities	**189**	192	**189**	192
Net cash from operating activities	**62,322**	51,235	**64,048**	53,382

Note (a) Disposal of subsidiary

On 19 April 2010, the Group disposed of CeramiSphere Pty Limited.

	Year ended	Year ended
	2010	2009
	$	$
Consideration received in cash	**1**	**-**

Analysis of assets and liabilities over which control was lost

	Year ended	Year ended
	2010	2009
	$'000	$'000
Current assets		
Cash	**223**	**-**
Total current assets	**223**	**-**
Non-current assets		
Property, plant and equipment	**454**	**-**
Total non-current assets	**454**	**-**
Total assets	**677**	**-**
Current liabilities		
Payables	**198**	**-**
Total liabilities	**198**	**-**
Net assets disposed of	**479**	**-**

12 Government funding

Revenue from Government	**155,240**	173,115	**155,240**	173,115
Government Equity injection	**-**	1,600	**-**	1,600
	155,240	174,715	**155,240**	174,715

Appropriations are made to the Department of Innovation, Industry, Science and Research (DIISR) which are then paid to ANSTO.

Notes to and forming part of the Financial Statements for the year ended 30 June 2010

13 Board membership

The members of the Board during the financial year and to the date of the report on the statements were:

Member	Appointed	Term Concluded	Term Concludes
Z Switkowski	1 January 2006		31 December 2010
W Scales	1 July 2007	30 June 2010	
P Greenfield	25 July 2007		24 July 2010 *
A Scott	26 September 2007		25 September 2011
D Copolov	1 May 2008		30 April 2012
J Hearn	1 May 2008		30 April 2012
E Smyth	12 December 2008		11 December 2012
A Paterson	1 March 2009		28 February 2014
C McLoughlin	13 March 2009		12 March 2013

* P Greenfield has been re-appointed on 25 July 2010 for period of 4 years.
**S Pond has been appointed on 1 July 2010 for period of 4 years.

For the 2009-2010 financial year the aggregate remuneration paid to members of the Board is disclosed in Note 14.

14 Remuneration of members of the Board

	FINANCIAL YEAR			
	Consolidated		ANSTO	
	2010	2009	**2010**	2009
	$	$	**$**	$
Members' remuneration is determined by the Remuneration Tribunal and payment is made in accordance with Section 12 of the ANSTO Act 1987 (as amended).				
Included in operating expenses (Note 6) are:				
Aggregate amounts of superannuation payments in connection with the members of the Board	**79,899**	62,791	**79,899**	62,791
Other remuneration received, or due and receivable by members of the Board including the Chief Executive Officer.	**681,357**	683,033	**681,357**	683,033
	761,256	745,824	**761,256**	745,824
The number of members included in these figures is shown below in each relevant remuneration band:				
Remuneration between	**Number**	Number	**Number**	Number
less than $145,000	**8**	10	**8**	10
$340,000 and $354,999 (a)	**-**	1	**-**	1
$445,000 and $459,999 (a)	**1**	-	**1**	-
	9	11	**9**	11

(a) Includes incentives payment

Notes to and forming part of the Financial Statements for the year ended 30 June 2010

15 Remuneration of executives

	FINANCIAL YEAR			
	Consolidated		ANSTO	
	2010	2009	**2010**	2009
The number of senior executives who received:				
	Number	Number	**Number**	Number
less than $145,000*	**1**	1	**1**	-
$145,000 and $159,999	**-**	3	**-**	2
$160,000 and $174,999	**1**	4	**1**	4
$175,000 and $189,999	**-**	1	**-**	1
$205,000 and $219,999	**1**	4	**-**	4
$220,000 and $234,999	**2**	1	**2**	1
$235,000 and $249,999	**1**	2	**1**	2
$250,000 and $264,999	**3**	-	**2**	-
$265,000 and $279,999	**2**	3	**2**	2
$280,000 and $294,999	**-**	1	**-**	1
$310,000 and $324,999	**1**	-	**1**	-
Total	**12**	20	**10**	17

* Excluding acting arrangements and part-year service.

	$	$	**$**	$
Short-term employee benefits:				
Salary (including annual leave taken)	**2,054,154**	3,098,271	**1,753,254**	2,695,372
Changes in annual leave provisions	**(26,472)**	70,363	**(44,178)**	61,947
Performance bonus paid	**192,355**	42,929	**171,566**	4,000
Other[1]	**368,797**	458,981	**263,327**	396,772
Total Short-term employee benefits	**2,588,834**	3,670,544	**2,143,969**	3,158,091
Superannuation (post-employment benefits)	**257,945**	395,181	**246,172**	371,158
changes in long service leave	**(3,046)**	30,137	**(4,751)**	26,765
Total	**2,843,733**	4,095,862	**2,385,390**	3,556,014

During the year the entity paid [$Nil] in termination benefits to senior executives (2009: $36,464)

Notes
1. "Other" includes motor vehicle allowances and other allowances.

Average annualised remuneration packages for substantive Senior Executives

	Consolidated					
	as at 30 June 2010			as at 30 June 2009		
	Senior Executives	**Base Salary Leave Annual Leave $**	**Total[1] Remuneration Package $**	Senior Executives	Base Salary Leave Annual Leave $	Total[1] Remuneration Package $
Total remuneration:						
less than $145,000*	**-**	**-**	**-**	3	104,101	113,749
$145,000 to $159,999	**1**	**132,854**	**153,314**	2	134,591	150,725
$160,000 to $174,999	**-**	**-**	**-**	4	147,354	165,260
$175,000 to $189,999	**1**	**126,563**	**188,335**	1	155,364	179,290
$205,000 to $219,999	**5**	**186,977**	**215,771**	6	181,535	209,491
$220,000 to $234,999	**2**	**185,113**	**227,931**	1	218,944	233,663
$250,000 to $264,999	**1**	**247,387**	**261,848**	2	224,823	262,800
$280,000 to $294,999	**2**	**253,441**	**284,250**	-	-	-
$310,000 to $324,999	**1**	**280,000**	**323,120**	-	-	-
$355,000 to $369,999	**-**	**-**	**-**	1	338,110	364,290
Total	**13**			20		

The at-risk bonus component for the consolidated entity is $252,789 (2009 - $285,929).

Notes to and forming part of the Financial Statements for the year ended 30 June 2010

	ANSTO					
	as at 30 June 2010			as at 30 June 2009		
Total remuneration:	**Senior Executives**	**Base Salary Leave Annual Leave $**	**Total[1] Remuneration Package $**	Senior Executives	Base Salary Leave Annual Leave $	Total[1] Remuneration Package $
less than $145,000*	**-**	**-**	**-**	1	109,328	114,248
$145,000 to $159,999	**1**	**132,854**	**153,314**	2	134,591	150,725
$160,000 to $174,999	**-**	**-**	**-**	4	147,354	165,260
$175,000 to $189,999	**-**	**-**	**-**	1	155,364	179,290
$205,000 to $219,999	**5**	**186,977**	**215,771**	6	181,535	209,491
$220,000 to $234,999	**1**	**195,889**	**226,055**	1	218,944	233,663
$250,000 to $264,999	**1**	**247,387**	**261,848**	1	249,723	263,468
$280,000 to $294,999	**2**	**253,441**	**284,250**	-	-	-
$310,000 to $324,999	**1**	**280,000**	**323,120**	-	-	-
$355,000 to $369,999	**-**	**-**	**-**	1	338,110	364,290
Total	**11**			17		

The at-risk bonus component for the parent entity is $232,000 (2009 - $247,000).

Notes
1. Non-Salary elements available to Senior Executives include:
(a) Motor vehicle and other allowances
(b) Superannuation

16 OPAL Nuclear Research Reactor

The OPAL nuclear research reactor operated for approximately 265 days of the calendar days in the financial year, which was 3% above the target for the period. Planned availability exceeded 90% for the financial year.

Irradiations for research, industry and radiopharmaceutical supply all increased throughout the year, and reliability of supply for these irradiated products was good.

The Cold Neutron Source, which is a major component of the OPAL reactor important for neutron beam research, was unavailable for about half the year, due to two failures in the Helium gas part of the refrigerant system connected to the Cold Neutron Source. The cause for these failures is still being investigated. The Cold Neutron Source was functioning at the end of the year.

There has been success in mitigating the degradation of heavy water purity in the OPAL reflector vessel, due to an engineering program where mechanical clamps were installed on the identified leak sites on the reflector vessel.

ANSTO continues to work with INVAP on the resolution of a number of other engineering defects. Progress on achieving acceptable disposition of these defects continues to be monitored and has been acceptable to date.

Notes to and forming part of the Financial Statements for the year ended 30 June 2010

17 Insurances

Insurance risks, including professional indemnity, general liability, industrial special risk for property used substantially for commercial purposes, directors and officers, and travel, are placed through Comcover, the Government's insurable risk managed fund.

Workers compensation is insured through Comcare Australia and by virtue of statute under the *Safety Rehabilitation and Compensation Act 1988.*

A Deed of Indemnity between the Commonwealth Government and ANSTO, under which the government has formally agreed to indemnify ANSTO and ANSTO Officers from any loss or liability arising from claims caused by ionising radiation, remains in place.

	FINANCIAL YEAR			
	Consolidated		ANSTO	
	2010	2009	**2010**	2009
	$	$	**$**	$
18 Audit fees				
Audit fees in relation to the financial statements for the reporting period	**177,500**	158,500	**160,000**	140,000

No other services were provided by the Auditor-General during the reporting period.

19 Related party disclosures

Several ANSTO Board Members were associated with entities with which ANSTO had commercial transactions during the year as part of their role in hospitals or universities. All such transactions were in accordance with ANSTO's normal commercial terms and conditions. None of those transactions led to any conflict of interest.

20 Trust money

	Consolidated		ANSTO	
	2010	2009	**2010**	2009
	$	$	**$**	$
ANSTO receives monies from trade creditors as security deposits for contracts to be performed. These monies are held in a Trust Account and refunded to the respective trade creditors on satisfactory completion of the contract.				
Balance 1 July	**20**	20	**20**	20
Deduct: payments	**(13)**	-	**(13)**	-
Balance 30 June	**7**	20	**7**	20

Notes to and forming part of the Financial Statements for the year ended 30 June 2010

21 Financial instruments

(a) Fair value of financial instruments

Financial Instruments	Notes	Consolidated				ANSTO			
		Carrying Amount	Fair Value	Carrying Amount	Fair Value	Carrying Amount	Fair Value	Carrying Amount	Fair Value
		2010 $'000	2010 $'000	2009 $'000	2009 $'000	2010 $'000	2010 $'000	2009 $'000	2009 $'000
Financial assets									
Cash at bank	7A	**5,023**	**5,023**	3,752	3,752	**2,699**	**2,699**	3,265	3,265
Investment held to maturity	7C	**129,000**	**129,000**	137,661	137,661	**129,000**	**129,000**	136,979	136,979
Investment at fair value through Profit and Loss	7C	**5,000**	**5,000**	5,000	5,000	**10,000**	**10,000**	10,000	10,000
Receivables for goods and services	7B	**6,926**	**6,926**	7,098	7,098	**7,061**	**7,061**	7,099	7,099
Loans	7B	**-**	**-**	-	-	**11,261**	**11,261**	5,977	5,977
Interest accrued	7B	**1,648**	**1,648**	1,364	1,364	**3,070**	**3,070**	1,985	1,985
Other	7B	**471**	**471**	1,095	1,095	**460**	**460**	1,115	1,115
Total financial assets (recognised)		**148,068**	**148,068**	155,970	155,970	**163,551**	**163,551**	166,420	166,420
Total financial liabilities									
Trade creditors	9E	**12,578**	**12,578**	8,263	8,263	**12,759**	**12,759**	8,150	8,150
Employees	9F	**2,815**	**2,815**	1,609	1,609	**2,797**	**2,797**	1,603	1,603
Grant received in advance	9G	**562**	**562**	575	575	**562**	**562**	575	575
Interest bearing liabilities	9A	**3,497**	**3,497**	3,308	3,308	**3,497**	**3,497**	3,308	3,308
Other	9H	**1,557**	**1,557**	1,171	1,171	**1,557**	**1,557**	1,171	1,171
Total financial liabilities (recognised)		**21,009**	**21,009**	14,926	14,926	**21,172**	**21,172**	14,807	14,807

Notes to and forming part of the Financial Statements for the year ended 30 June 2010

(b) Net income from financial assets

Financial Instruments	Notes	Consolidated		ANSTO	
		2010 $'000	2009 $'000	**2010 $'000**	2009 $'000
Financial assets					
Cash at bank	7A	**124**	636	**124**	367
Investment held to maturity	7C	**6,144**	7,813	**6,100**	7,814
Loans	7B	**-**	-	**809**	986
Net Income from financial assets		**6,268**	8,449	**7,033**	9,167

(c) Net expenses from financial liabilities

Financial liabilities					
Interest bearing liabilities	9A	**198**	186	**198**	186
Net expenses from financial liabilities		**198**	186	**198**	186

Financial assets

The net fair values of cash, deposits on call and non-interest-bearing monetary financial assets are in accord with their carrying amounts.

Loans receivable are carried at cost, which is above their net fair value, because it is intended to hold them to maturity.

Financial liabilities

The net fair values for trade creditors and revenue received in advance, all of which are short-term in nature, are in accord with their carrying amounts.

(d) Credit risk exposures

ANSTO is exposed to minimal credit risk as the majority of loans and receivables are cash or amounts owed by the Australian Tax Office in the form of a Goods and Services Tax refund.

The maximum exposure to credit risk is the risk that arises from potential default of a debtor. This is equal to the total amount of trade and other receivables as per note 7B. ANSTO has assessed the risk of the default on payment and has provided for doubtful debts account as per note 7B(b).

ANSTO manages its credit risk by undertaking background and credit checks prior to allowing a debtor relationship. In addition, the Organisation has policies and procedures that guide employees to apply debt recovery techniques. The Organisation holds no collateral to mitigate against credit risk.

Notes to and forming part of the Financial Statements for the year ended 30 June 2010

21 Financial instruments (cont.)

(e) Liquidity risk

ANSTO financial liabilities are payables, finance leases and other interest bearing liabilities. The exposure to liquidity risk is based on the notion that the Organisation will encounter difficulty in meeting its obligations associated with financial liabilities. This is highly unlikely due to Australian Government Appropriation funding and mechanism available to the Organisation and internal policies and procedures put in place to ensure there are appropriate resources to meet its financial obligations.

Consolidated

Financial Instruments	Notes						
		Consolidated					
2010		**Carrying Amount**	**On Demand**	**1 Year or Less**	**1 to 5 Years**	**More than 5 years**	**Total Contractual Cash Flows**
		$'000	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**
Financial liabilities							
Trade creditors	9E	**12,578**		**12,578**			**12,578**
Employees	9F	**2,815**		**2,815**			**2,815**
Grant received in advance	9G	**562**		**562**			**562**
Interest bearing liabilities	9A	**3,497**		**3,497**			**3,497**
Other	9H	**1,557**		**1,557**			**1,557**
Total financial liabilities (recognised)		**21,009**		**21,009**			**21,009**
		Consolidated					
2009		Carrying Amount	On Demand	1 Year or Less	1 to 5 Years	More than 5 years	Total Contractual Cash Flows
		$'000	$'000	$'000	$'000	$'000	$'000
Financial liabilities							
Trade creditors	9E	8,263		8,263			8,263
Employees	9F	1,609		1,609			1,609
Grant received in advance	9G	575		575			575
Interest bearing liabilities	9A	3,308			3,308		3,308
Other	9H	1,171		1,171			1,171
Total financial liabilities (recognised)		14,926		11,618	3,308		14,926

Parent

Financial Instruments	Notes						
		ANSTO					
2010		**Carrying Amount**	**On Demand**	**1 Year or Less**	**1 to 5 Years**	**More than 5 years**	**Total Contractual Cash Flows**
		$'000	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**
Financial liabilities							
Trade creditors	9E	**12,759**		**12,759**			**12,759**
Employees	9F	**2,797**		**2,797**			**2,797**
Grant received in advance	9G	**562**		**562**			**562**
Interest bearing liabilities	9A	**3,497**		**3,497**			**3,497**
Other	9H	**1,557**		**1,557**			**1,557**
Total financial liabilities (recognised)		**21,172**		**21,172**			**21,172**
		ANSTO					
2009		Carrying Amount	On Demand	1 Year or Less	1 to 5 Years	More than 5 years	Total Contractual Cash Flows
		$'000	$'000	$'000	$'000	$'000	$'000
Financial liabilities							
Trade creditors	9E	8,150		8,150			8,150
Employees	9F	1,603		1,603			1,603
Grant received in advance	9G	575		575			575
Interest bearing liabilities	9A	3,308			3,308		3,308
Other	9H	1,171		1,171			1,171
Total financial liabilities (recognised)		14,807		11,499	3,308		14,807

Notes to and forming part of the Financial Statements for the year ended 30 June 2010

21 Financial instruments (cont.)

(f) Market risk - consolidated

(i) Interest rate risk
This refers to the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates. ANSTO is exposed to interest rate risk primarily from Investment held to maturity. The impact only relates to assets and not profit and loss or equity.

Risk variable	Consolidated					
	Change in variable		Effect on		Effect on	
	2010	2009	**1.50%**	**-1.50%**	**0.75%**	**-0.75%**
			Profit or loss 2010 $'000	**Equity 2010 $'000**	Profit or loss 2009 $'000	Equity 2009 $'000
Investment held to maturity ($'000)	**129,000**	137,661				
Interest	**1.50%**	0.75%	**1,935**	**1,935**	1,032	1,032
Interest	**-1.50%**	-0.75%	**(1,935)**	**(1,935)**	(1,032)	(1,032)

Interest rate sensitivity analysis has been calculated on a 'reasonably possible' change basis. A 'reasonably possible' change has been estimated using both statistical and non-statistical analyses. The statistical analysis has been based on the cash rate for the past five years issued by the Reserve Bank of Australia (RBA) as the underlying dataset. This information is then revised and adjusted for reasonableness under the current economic circumstances.

As a result of the analyses above, a standard rate of 150 basis points (2009: 75 basis points) shock level was selected as a 'reasonably possible' change in market interest rate.

150 basis points is considered reasonable because it is 'reasonably possible' that there will be greater volatility compared to that which has been experienced in recent years.

(ii) Foreign currency rate
This refers to the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in foreign currency rates. ANSTO is exposed to foreign currency rate risk primarily from trade creditors. The impact only relates to assets and not profit and loss or equity.

The method used to arrive at the possible risk of 14% (2009, 12%) was based on both statistical and non-statistical analyses. The statistical analysis has been based on main currencies movement for the last five years. The two main currencies ANSTO has exposure to are USD and EURO currencies. This information is then revised and adjusted for reasonableness under the current economic circumstances.

A standard rate of 14% (2009, 12%) is considered reasonable because it is 'reasonably possible' that there will be greater volatility compared to that which has been experienced in recent years.

Governance and performance

Governance and performance

Compliance

ANSTO is subject to the provisions of various Commonwealth Acts, Regulations made under these various Acts and Commonwealth Awards.

The principal Act is the *Australian Nuclear Science and Technology Organisation Act 1987 (ANSTO Act)*.

The principal Award is the Australian Nuclear Science and Technology Organisation (General) Award 1990.

Amendments to governance parts of the *ANSTO Act*

There were no changes to the governance part of the *ANSTO Act* during 2009-10 reporting period.

Nuclear liability

The Minister executed a new Deed of Indemnity on 27 August 2008 for a period of ten years. The Indemnity commits the Government to meeting any damages awarded against ANSTO, its employees and its contractors for damage caused by ionising radiation whilst providing comfort to the local community and to ANSTO's suppliers, who cannot be covered by ANSTO's normal insurance arrangements and are not accustomed to being exposed to risks of this nature. Any claim would first attach to the general $50 million cover that ANSTO has with Comcover to the extent that it was insured under that policy, with the remainder covered by this indemnity agreement.

The functions of the Board

A Board established under Section 8 of the *ANSTO Act* governs ANSTO. The general functions of the Board, as set out in Section 10 of the *ANSTO Act*, are to ensure the proper and efficient performance of the functions of the organisation and to determine the policy of the organisation with respect to any matter, having regard to the current policies of the Commonwealth Government.

In particular, it has responsibility for:

- approval of organisational strategy and the annual business plan and budget
- monitoring financial performance
- monitoring managerial performance
- ensuring that the significant risks facing the organisation have been identified, and that appropriate control, monitoring and reporting mechanisms are in place.

The *Commonwealth Authorities and Companies Act (CAC Act)* requires the Board to comply with certain accountability and corporate governance principles, including:

- the maintenance of an Audit Committee
- specific financial and reporting provisions
- disclosure of all Board members' personal interests
- provision of indemnities and indemnity insurance in certain circumstances.

Meetings – Board

Member	Eligible to attend	Attended
Dr Zygmunt Switkowski (Chair)	6	6
Professor David Copolov	6	5
Professor Paul Greenfield AO	6	6
Professor John Hearn	6	5
Ms Christine McLoughlin	6	6
Ms Erica Smyth	6	6
Mr William Scales AO	6	5
Professor Andrew M Scott	6	4
Dr Adrian Paterson (Chief Executive Officer)	6	6

All *CAC Act* requirements are currently being met.

Processes are in place for performance assessment of both the Board and its Audit & Risk Committee and individual members thereof.

The Board has established an Audit & Risk Committee and a Remuneration Committee. All matters considered by those Committees are submitted to the Board for information and, where appropriate, ratification.

Board Charter

ANSTO has an established Board Charter, setting out the respective rights and responsibilities, functions and powers of Board members and ANSTO executives. It is made available internally on the ANSTO intranet site.

Board membership

During the 2009-10 financial year, the Board comprised eight non-executive members, drawn from the broader community, who are not involved in the day-to-day running of the organisation, and the Chief Executive Officer.

The ANSTO Act provides that the Chief Executive Officer shall manage the affairs of the organisation, subject to the directions of, and in accordance with, policies determined by the Board. Senior management attend Board meetings as required to report on matters relevant to their individual areas of responsibility.

Each member brings complementary skills and experience to the Board. Its members during the 2009-10 financial year had experience in areas that included industry, information and communication

technology, mining, scientific research, medicine and the commercialisation of research.

The Board meets regularly in accordance with a formally approved timetable and agenda.

Six Board meetings were held during the 2009-2010 financial year. Details of the number of Board meetings attended by each member during the financial year are included in this document.

Board remuneration and allowances

The remuneration and allowances of members of the Board, including the Chief Executive Officer, are determined by the Remuneration Tribunal. Remuneration of members of the Board is disclosed in Note 14 of the Financial Statements.

Disclosure of interests of Board Members

Sections 27F-27K of the *CAC Act* provides for the disclosure of material personal interests in a matter that is being considered by the Board, and prohibits participation, deliberation and decision making by any member on such matters. All these requirements were met during the year.

Board member access to independent professional advice

The Board has established procedures by which members, in the interests of their duties, may seek independent professional advice at ANSTO's expense. In brief, members must first seek permission from the ANSTO Chairman.

Report of operations

Section 9, Schedule 1 of the *CAC Act* requires that the Organisation's Annual Report include a report of operations. The Commonwealth Authorities and Companies (Report of Operations) Orders 2005 set out the requirements for such a report.

The Board reports that:

- ANSTO's mission and strategic directions are being actioned
- Actual performance is reported against approved performance indicators
- There have been no significant changes in ANSTO's state of affairs or principal activities during the year
- ANSTO has continued to manage both the risks and opportunities it faces.

The Board reports that, in the opinion of senior management and the Board, at the time of making this report, adequate cash resources are, and will continue to be, available to cover ANSTO's requirement for working capital, to pay existing debts, and meet obligations during the next financial year.

The Board states that a risk oversight and management policy and supporting processes are in place and that adequate systems are in place to ensure compliance with this policy.

Health, safety and environmental protection

The Board places primary importance on the safe performance of all ANSTO

activities. The monitoring of health, safety and environmental protection in general and compliance with relevant legislation in particular, is designated as a responsibility of the whole Board. During 2009-10, ANSTO focussed on improving the organisational safety culture and on initiatives relating to key elements underpinning a good safety culture. These included a 'questioning attitude', 'conservative decision making', '3-way communication' and a 'no blame culture'. A safety culture survey was conducted across the organisation, the outcome of which was an action plan to drive continuous improvement in safety culture over the coming year. Improvements were made to the event reporting system which has seen a significant improvement in the data, which will further drive continuous improvement in safety performance. Contractor safety management has been a key area of focus for the organisation, with the aim of integrating ANSTO's contract partners into its safety culture and encouraging contractors to support ANSTO as a learning organisation by sharing elements of best safety practice.

Audit & Risk Committee

The Audit & Risk Committee, a formal sub-committee of the Board, comprised during the year: Mr W Scales AO; Professor P Greenfield AO; Professor AM Scott; Professor D Copolov; Professor J Hearn; Ms E Smyth; Ms C McLoughlin and a member external to ANSTO, Mr W Wilton. Mr Wilton is a Chartered Accountant. The Chair of the ANSTO Board, the Chief Executive Officer, the Chief Financial Officer, representatives of the Australian National Audit Office (ANAO) and the Chief Internal Auditor attended all meetings or relevant parts of all meetings by invitation. Others attend meetings, as appropriate, at the invitation of the Committee.

In accordance with good practice, all Board members receive copies of Audit & Risk Committee papers and meeting minutes, and can attend Committee meetings as a right. This Committee was established by the Board under a formal written Charter to oversee the organisation's risk management policies, practices and controls in relation to financial and commercial activities, including the financial reporting process, legislative and regulatory conformance, corporate governance and asset protection. Its Charter extends to the review of safety and environmental systems and performance.

Additionally, in accordance with the provisions of the *CAC Act,* the Committee is responsible for assisting Board members to fulfil their specific responsibilities under that Act. The Committee has unlimited access to both the internal and external auditors and to senior management.

The Committee scrutinises the annual financial statements of ANSTO and considers the appropriateness of accounting practices reflected therein. It receives a signed recommendation from the Chief Executive Officer, and the Chief

Meetings – Audit & Risk Committee

Member	Eligible to attend	Attended
Mr William Scales AO (Chair)	4	4
Professor David Copolov	4	3
Professor Paul Greenfield AO	4	4
Professor John Hearn	4	3
Ms Christine McLoughlin	4	4
Professor Andrew M Scott	4	2
Ms Erica Smyth	4	4
Mr Warren Wilton (External Representative)	4	3

Financial Officer, as to the veracity of the financial statements signed by the Board.

Four Audit Committee meetings were held during the financial year. Details of the number of Committee meetings held and attended during the period in which each member held office during the financial year are provided in the table above.

The Committee generally meets quarterly. The remuneration and allowances of Board members who are members of the Audit & Risk Committee are determined by the Remuneration Tribunal. The remuneration of the External Representative is determined by the Board on appointment.

Remuneration Committee

The Remuneration Committee, a formal subcommittee of the Board, comprised during the year Dr Z Switkowski (Chair) and Mr W Scales. The Chief Executive Officer attends all meetings or relevant parts of all meetings by invitation. Others attend meetings, as appropriate, at the invitation of the Committee.

This Committee was established by the Board under a formal written Charter to oversee:

- The overall remuneration policy and strategy for the organisation
- The performance and remuneration policies for the Chief Executive Officer
- The compliance of remuneration policies and practices with statutory and regulatory requirements.

Meetings – Remuneration Committee

Member	Eligible to attend	Attended
Dr Zygmunt Switkowski (Chair)	1	1
Mr William Scales AO	1	1

Technical Advisory Committee

The Technical Advisory Committee, which was originally established in accordance with a Board decision, was disbanded by the Board on 6 August 2009 and was replaced by an alternative review process of the Research Institutes. The new process involves a much more intensive and dedicated review of each Institute on a four year rolling basis. This involves internationally recognised experts reviewing research directions, quality and impact of research output, and other relevant activities, as well as governance and any other matters that may arise. In the current period the Bragg Institute was reviewed and the Board reviewed and deliberated on the report of the Review Committee.

Induction and continuing professional development of ANSTO executives

Processes are in place for induction and ongoing education to inform executives of their responsibilities and rights. New executives have access to appropriate induction documents and processes (including those relating to safety and security) and to ANSTO officers.

Performance review for ANSTO executives

All executives have performance objectives and targets and during the 2009-10 financial year performance reviews were conducted of the Chief Executive Officer and all other members of the senior management team. After the completion of 360 degree reviews of all Senior Executives conducted during 2009-2010, individual development needs were identified and development programs put in place.

Risk management

The Board recognises that developing and implementing ANSTO's strategies requires careful assessment and balancing of both risk and opportunity.

The Board is charged with the responsibility of ensuring that appropriate policies are in place to cover identified risks, and management is required to develop appropriate procedures to manage these risks.

The Board endorses the risk management framework implemented by management. As part of this framework, ANSTO undertakes a systematic program of risk assessments designed to identify,

evaluate and prioritise high and significant risks, utilising a methodology consistent with the Risk Management Standard (ISO 31000:2009). The Audit & Risk Committee receive summaries of all risk assessment reports. ANSTO has an Enterprise Risk Management Register, supported by individual operational level risk registers which are regularly reviewed by the ANSTO Risk Management Committee comprising of senior executives of the organisation.

ANSTO's risk management policy provides that it is the responsibility of the operational management of ANSTO to develop and implement risk mitigation strategies. The overall risk framework is actively applied in ANSTO's operations and to new initiatives in particular. Project risk management remains a significant area of focus in particular capital works projects.

In appropriate circumstances, insurance is used as a method to transfer the financial impact of risk.

The Board, supported by the Audit & Risk Committee, oversees the development and operation of business continuity planning and other emerging risk issues.

Ethical standards

ANSTO's ethics policy is set out in a document entitled Code of Ethics. The Code provides a reference point for ethical behaviour and applies to members of the Board, management and all staff. The Code sets out the standards for ethical behaviour and conduct and provides guidance by defining the expected values and standards of workplace behaviour and performance.

Fraud control

The organisation has an established fraud control policy and plan, in line with the Fraud Control Policy of the Commonwealth and guidelines set out by the Attorney General's Department, Criminal Justice Division.

External audit

Under Section 8 of the *CAC Act* the Commonwealth Auditor-General, through the ANAO, is the external auditor for ANSTO.

The ANAO, as a matter of policy, provides only audit services to ANSTO.

The Audit & Risk Committee reviews the ANAO audit plan and reports and meets with ANAO representatives prior to recommending to the Board that the financial statements be accepted and the Statement by Directors signed.

Internal audit

The ANSTO Internal Audit function has a dual reporting line to the Audit & Risk Committee and the Chief Executive Officer. Its responsibility is to provide an independent, risk-based review function, as set out in a formal charter periodically reviewed by the Audit & Risk Committee and endorsed by the Board. The Audit & Risk Committee approves the annual internal audit plan and receives regular reports on progress against that plan.

Internal control

The Board is responsible for ensuring that appropriate policies and internal controls are in place and operating.

Compliance and review are monitored through the Audit & Risk Committee and the internal audit function.

Service Charter

ANSTO's Service Charter sets out a statement of what ANSTO does and the standard of products and services that customers, stakeholders and the community can expect from the organisation.

Judicial decisions and reviews by outside bodies

There were no judicial decisions or decisions of administrative tribunals that had a significant impact on the operations of ANSTO during the reporting year.

There were no specific reports issued by the Commonwealth Auditor-General, other than that issued in relation to the 2009-2010 financial statements.

There were no reports on the operations of ANSTO by a Parliamentary Committee or the Commonwealth Ombudsman during the reporting year.

Ministerial directions

There were no ministerial directions to ANSTO made under either the *ANSTO Act* or the *CAC Act* during the reporting year.

Statement of Expectations

The Board approved and signed the Statement of Intent for ANSTO which acknowledges and responds to the Statement of Expectations from the Minister for Innovation, Industry, Science and Research. This Statement recognises and ensures that ANSTO will play an active role in implementing Australia's innovation agenda outlined in *Powering Ideas: An Innovation Agenda for the 21st Century*. Further, it recognises ANSTO's commitment to undertake research and deliver outcomes relevant to the National Research Priorities, including supporting an environmentally sustainable Australia; promoting and maintaining good health; developing frontier technologies for building and transforming Australian industries; and safeguarding Australia.

Indemnities and insurance premiums for officers

ANSTO's insurance coverage includes professional indemnity and directors' and officers' liability. Certain sections of the *CAC Act* contain prohibitions against ANSTO giving indemnities and paying insurance premiums relating to liabilities arising from conduct involving a lack of good faith by officers. There have been no exceptions to these provisions and no claims were made against ANSTO in respect of such liability that required a claim on ANSTO's insurer, Comcover.

Business continuity planning

Continuity of ANSTO business is a critical issue that has been considered and planned for by the Board, the Chief Executive Officer and senior management. Many services delivered by ANSTO are critical to the economic and social well-being of our society. A failure to deliver these could have significant consequences for those concerned. As a consequence, ANSTO regularly reviews all aspects of its business continuity management to ensure a constant state of readiness. In 2007-2008 ANSTO's crisis management plan was updated and will next be reviewed in 2010-2011. ANSTO completed development and testing of a full set of plans during 2009-2010. A test schedule is in place and is being monitored, additionally plans are scheduled to be reviewed and updated annually.

Appendices

Appendix 1 Equality of Employment Opportunity

Objectives

1. To ensure that Equal Employment Opportunity (EEO) principles and practices are actively incorporated into all people management practices.
2. To ensure that the structures and processes used to implement EEO adjust to changing employment needs.
3. To confirm and communicate the vision that ANSTO's employment activities reflect ANSTO's values. ANSTO actively seeks to implement EEO and diversity principles in its management practices. Human resource processes operate within the ISO 9001 framework.

Family services and on site childcare

ANSTO has partnered with Expect A Star Education Services to provide a range of family services, including affordable vacation care on ANSTO's Southern Sydney campus during school holidays.

Staff who register with Expect A Star can access parenting seminars, as well as a range of qualified, background checked, and First Aid-trained nannies, babysitters and emergency care workers.

Online resources include a childcare search function, as well as articles about the childcare industry and tips on dealing with behavioural issues.

Equality of employment opportunity

	Number employed		% of total staff		Average salary	
	2008-2009	**2009-2010**	2008-2009	**2009-2010**	2008-2009	**2009-2010**
Female	250	291	27%	28%	$66,030	$69,499
Male	676	757	73%	72%	$81,107	$84,486

	Number employed		% of total staff		Average salary	
	2008-2009	**2009-2010**	2008-2009	**2009-2010**	2008-2009	**2009-2010**
People with disabilities	11	11	1%	1.05%	$69,847	$88,264
Aboriginal & Torres Straight Islander	9	9	1%	0.9%	$74,294	$74,404
Non-English speaking background	195	273	21%	26.05%	$81,233	$83,690

Functions and powers of the Organisation under the *ANSTO Act*

Appendix 2

This appendix describes the functions and powers of the organisation under the *Australian Nuclear Science and Technology Organisation Act 1987* (*ANSTO Act)*, which is ANSTO's enabling legislation. In the text below, 'Organisation' means the Australian Nuclear Science and Technology Organisation.

Section 5: Functions of the Organisation

(1) The functions of the Organisation are:

(a) to undertake research and development in relation to:

(i) nuclear science and nuclear technology; and

(ia) the application and use of nuclear science and nuclear technology; and

(ii) the production and use of radioisotopes, and the use of isotopic techniques and nuclear radiation, for medicine, science, industry, commerce and agriculture; and

(iii) such other matters as the Minister directs; and

(b) to encourage and facilitate the application and use of the results of such research and development; and

(ba) to condition, manage and store radioactive materials and radioactive waste, arising from:

(i) the Organisation's activities (including the production of radioactive materials for other persons); or

(ii) the activities of companies in which the Organisation holds a controlling interest (including the production of radioactive materials for other persons); or

(iii) the use by other persons of radioactive materials produced by the Organisation or such companies; or

(iv) the activities of other persons who are specified in the regulations; and

(bb) to condition, manage and store radioactive materials and radioactive waste generated, possessed or controlled by the Commonwealth or a Commonwealth entity; and

(bc) to condition, manage and store radioactive materials and radioactive waste at the request of:

(i) a law enforcement agency; or

(ii) a Commonwealth, State or Territory agency responsible for the management of emergencies or disasters;

Appendix 2 Functions and powers of the Organisation under the *ANSTO Act*

including, but not limited to, radioactive materials or radioactive waste involved in, or arising out of, a radiological incident or a radiological emergency; and

(bd) to condition, manage and store radioactive waste that has been, or is to be, sent to Australia under contractual arrangements relating to the conditioning or reprocessing of ANSTO spent nuclear fuel; and

(c) to produce, acquire, provide and sell goods, and to provide services, that are:

(i) in connection with the production and use of radioisotopes, and the use of isotopic techniques and nuclear radiation, for medicine, science, industry, commerce and agriculture; or

(ia) in connection with the conditioning, management and storage of radioactive materials or radioactive waste; or

(ib) in connection with nuclear science and nuclear technology; or

(ic) in connection with the application and use of nuclear science and nuclear technology; or

(ii) otherwise in connection with matters related to its activities; and

(d) to act as a means of liaison between Australia and other countries in matters related to its activities; and

(e) to provide advice on aspects of:

(i) nuclear science and nuclear technology; and

(ii) the application and use of nuclear science and nuclear technology; and

(iii) other matters related to its activities; and

(ea) to make available to other persons, on a commercial basis, the knowledge, expertise, equipment, facilities, resources and property of the Organisation by:

(i) providing training and management expertise; or

(ii) selling or leasing equipment; or

(iii) leasing land, buildings and facilities; or

(iv) taking any other action that the Organisation thinks appropriate; and

(f) to cooperate with appropriate authorities of the Commonwealth, the States and the Territories, and with other organisations and institutions in Australia or elsewhere, in matters related to its activities; and

(g) to publish scientific and technical reports, periodicals and papers on matters related to its activities; and

(h) to collect and sell or distribute, as appropriate, information and advice on matters related to its activities; and

(j) to arrange for training, and the establishment and award of scientific research studentships and fellowships, in matters related to its activities; and

(k) to make grants in aid of research into matters related to its activities; and

(m) to make arrangements with universities and other educational research institutions, professional bodies and other persons for the conduct of research or of other activities in matters related to its activities.

(1A) A regulation made for the purposes of subparagraph (1)(ba)(iv) must not have the effect of authorising the premises on which the Lucas Heights Research Laboratories are situated to become a national nuclear waste repository.

(1B) In subsection (1A):

national nuclear waste repository means a site chosen by the Commonwealth, after the commencement of this subsection, for the storage of nuclear waste with a view to it never being moved to another site.

(1C) Without limiting paragraph 5(1)(bb):

(a) radioactive materials and radioactive waste generated by a Commonwealth contractor under a contract between the Commonwealth contractor and the Commonwealth or a Commonwealth entity are taken to be generated by the Commonwealth or the Commonwealth entity, as the case requires; and

(b) radioactive materials and radioactive waste possessed or controlled by a Commonwealth contractor under a contract between the Commonwealth contractor and the Commonwealth or a Commonwealth entity are taken to be possessed or controlled by the Commonwealth or the Commonwealth entity, as the case requires.

(2) The Organisation shall not undertake research or development into the design or production of nuclear weapons or other nuclear explosive devices.

(3) In undertaking its functions, the Organisation is to have regard to:

(a) the Commonwealth Government's national science, technology and energy policy objectives; and

(b) the Commonwealth Government's commercialisation objectives for public research institutions.

Appendix 2 Functions and powers of the Organisation under the *ANSTO Act*

(4) The Minister shall not give a direction under subparagraph (1)(a)(iii) to the Organisation to undertake research or development in relation to a matter unless the Minister is satisfied that research or development by the Organisation in relation to that matter would be an effective use of the staff of the Organisation, and would not duplicate unnecessarily any activity being carried on, or proposed to be carried on, by any other agency or authority of the Commonwealth.

(5) The Organisation may perform its functions to the extent only that they are not in excess of the functions that may be conferred on it by virtue of any of the legislative powers of the Parliament, and, in particular, may perform its functions:

(a) in so far as it is appropriate for those functions to be performed by the Organisation on behalf of the Government of the Commonwealth as the national Government of Australia; and

(b) for purposes for which it is appropriate for the Parliament as the national Parliament of Australia to authorise the Organisation to perform functions; and

(c) by way of expenditure of money that is available for the purposes of the Organisation in accordance with an appropriation made by the Parliament; and

(d) in the course of, or in relation to, trade and commerce with other countries, among the States, between Territories or between a Territory and a State; and

(e) for purposes related to external affairs; and

(f) for purposes in or in relation to a Territory; and

(g) for purposes related to the defence of the Commonwealth.

Section 6: General powers of Organisation

(1) Subject to this Act, the Organisation has power to do all things necessary or convenient to be done for or in connection with the performance of its functions and, in particular, has power:

(a) to enter into contracts;

(b) to acquire, hold and dispose of real or personal property;

(c) to occupy, use and control any land or building owned or held under lease by the Commonwealth and made available for the purposes of the Organisation;

(d) to erect buildings and structures and carry out works;

(e) to form, or participate in the formation of, a company or partnership;

(f) to appoint agents and attorneys, and to act as an agent for other persons;

(g) to engage persons to perform services for the Organisation;

(h) to design, produce, construct and operate equipment and facilities; and

(j) to do anything incidental to any of its powers.

(2) The powers of the Organisation may be exercised within or outside Australia.

(3) To avoid doubt, the Organisation has the power to construct buildings and facilities for the sole purpose of performing the function referred to in paragraph 5(1)(ea).

Appendix 3 *Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act),* section 516A

Environmental Protection

ANSTO is committed to operating in a manner that protects the environment and is consistent with Australian and international standards. Environmental awareness is promoted throughout the organisation which strives for continual improvement in environmental performance.

Environmental management system

To provide assurance that ANSTO is maintaining sound environmental protection practices, we maintain an environmental management system (EMS) that is certified to the International Standard ISO 14001. This standard requires that environmental risks and legal requirements are understood and managed, an appropriate measurement and review system is in operation, and that there is an organisational commitment to continual improvement. In addition all parts of our environmental monitoring program operate within a quality system certified to the ISO 9001:2000 standard for Quality Management Systems.

Environmental performance

Accurate measurements with independent verification

ANSTO conducts an extensive environmental monitoring program that measures radioactivity in authorised airborne emissions and liquid effluent discharges to the sewer, and in samples of air, surface water, ground water, sediment and biota from the local environment.

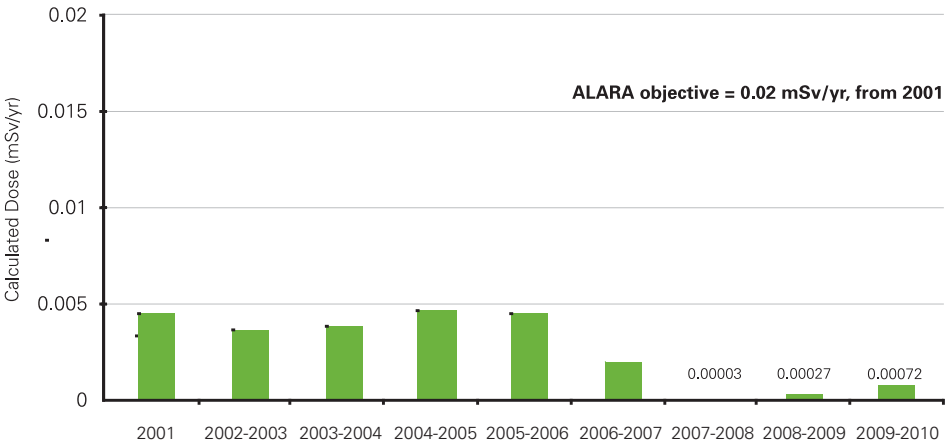
General environmental radiation is also monitored and local weather patterns reported. Many monitoring capabilities are independently verified. Environmental monitoring in 2009-2010 confirmed that ANSTO's authorised releases of radioactive material to the air and sewer had minimal impact on the environment, and that the modern OPAL reactor has significantly reduced the contribution made by ANSTO's research reactor to the already tiny potential public dose from liquid and airborne emissions.

Emissions to air

Since the levels of radioactivity released to air are low, computer modelling is used to estimate the potential radiation doses to people at various distances from the site. The measured stack discharges and concurrent weather data are inputs to the model, which incorporates conservative assumptions about occupancy and food consumption. The maximum public dose estimated for ANSTO's airborne emissions in 2009-2010 was 0.00072 mSv. This corresponds to less than 0.1 per cent of the annual public dose limit of 1.0 mSv, established by ARPANSA and continues the pattern of decreased dose estimates over the previous ten years (see graph on following page). For our closest neighbours, ANSTO's activities added less than 0.05 per cent to the 1.5mSv dose that every Australian receives from natural background radiation every year.

Appendix 3

Maximum annual effective dose from LHSTC airborne discharges at the 1.6 km boundary of ANSTO's buffer zone, 2000 to 2010



Liquid effluent discharges within limits

Effluent discharged from ANSTO into the sewer complied with all limits for radioactive discharges, in accordance with the Trade Waste Agreement with Sydney Water. Compliance with these limits ensures that water at the Cronulla sewage treatment plant meets World Health Organisation drinking water standards for radioactivity. Concentration limits for non-radioactive materials such as ammonia, zinc and total dissolved solids were also met. Sydney Water conducts independent testing of liquid effluent discharges to sewer and the Trade Waste Agreement is periodically reviewed to provide assurance that ANSTO's discharges remain within authorised limits and pose no threat to the environment. Effluent from the Sutherland Shire undergoes tertiary treatment at the Cronulla sewage treatment plant and is ultimately discharged to the ocean at Potter Point. A study carried out for marine biota in the receiving environment at Potter Point has confirmed that the radiological risk to marine life from ANSTO's liquid effluent discharges is negligible.

Good water quality

ANSTO regularly monitors stormwater leaving the site, as well as sampling the nearby Woronora River. Results show that concentrations of tritiated water in the environment have decreased since the HIFAR reactor closed in January 2007, and are well below the level considered safe for Australian drinking water. Gross alpha and beta measurements were also below the levels required for stormwater/surface waters, following the *NSW Protection of the Environment Operations Act 1997*. In fact, most measurements were below the stricter screening levels from the Australian Drinking Water Guidelines (ADWG).

Appendix 3 *Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act),* section 516A

ANSTO's stormwater does not contribute to any public water supply. However, referring to the ADWG provides a useful context for understanding our data. Monitoring of groundwater at the Southern Sydney site showed no detectable ANSTO-produced radionuclides apart from very low levels of tritium.

Detailed reporting

The results and findings from our environmental monitoring program are available to the public in the annual report series Environmental and Effluent Monitoring at ANSTO Sites, available on the ANSTO website.

ANSTO also reports annually to the Department of Environment and Heritage about any of its activities that fall under the National Environmental Protection Measures. Overall, ANSTO commits significant resources to effectively monitor, manage and report on its environmental impacts and responsibilities.

Ecologically sustainable development (ESD)

ANSTO's commitment to environmental protection and sustainability principles is embedded at the highest level. The organisation has defined strategic directions which inform its social, economic and environmental core values. These priorities are integral to ANSTO's Business Management System – the framework that defines how business is conducted to deliver outcomes to our customers and stakeholders in a safe, consistent and environmentally responsible manner. Specific local arrangements and objectives for protecting human health, safeguarding our operations and minimising our environmental footprint derive from these overarching documents.

ANSTO activities that contribute to ESD include our research into significant environmental issues such as dry land salinity, water management, human impacts on climate variability and purification of waste water. This research enhances scientific knowledge and improves environmental outcomes.

ANSTO's active support of nuclear non-proliferation ideals and the development of nuclear safeguards through its collaborative research with bodies such as the International Atomic Energy Agency and the Comprehensive Test Ban Treaty Organisation, also accords with ESD principles.

Finally, ANSTO's commitment to sound environmental management and ecologically sustainable development means that special emphasis is placed on reducing the environmental footprint by minimising waste production and the consumption of resources such as paper, electricity and water, and by recycling consumables. It also ensures that we manage our past and current waste in a manner that protects human health and the environment, now and in the future.

Occupational Health and Safety Act 1991, section 74

Appendix 4

Safety arrangements

ANSTO is committed to ensuring a safe and healthy environment for employees, visitors, contractors and the external community. ANSTO strives, through a process of continuous improvement, to fully integrate health, safety and environment into all aspects of its activities. All ANSTO activities are governed by a 'safety first' philosophy that means work is planned and will only be performed if it is judged to be safe.

Safety and environmental principles, values and commitments are set out in the *ANSTO Health, Safety and Environment Policy* which is supported by a framework of documents that constitutes our safety management system. Key elements of the safety system are:

- documented requirements and guidance
- formal review and approval of potentially hazardous work
- auditing and evaluation of safety performance
- communication of safety issues and performance to workers and the community.

ANSTO fosters a cooperative, consultative relationship with employees and contractors regarding health, safety and welfare by having established:

- Occupational, health, safety and environmental management arrangements (OHSEMA)
- designated work groups (DWGs)
- health and safety representatives (HSRs)
- health and safety committees (HSCs).

Accidents and incidents

An important part of ANSTO's safety management system is the capturing of information on all safety-related events including accidents and 'near misses'. This ensures the proper investigation of all such events and the implementation of safety improvements. It also gives us data to drive improvements in ANSTO's safety performance.

One key indicator of safety performance is the percentage of near miss events reported. An emphasis on the reporting of 'near misses' is essential for a robust safety culture and continuous safety improvement. 2009-2010 saw an increase in the number of near miss events reported with 76.5 per cent of events reported offering an opportunity for improvement before an injury occurred.

ANSTO also works with its regulators to improve OHS across site. In 2009-2010 ANSTO informed Comcare of 11 notifiable incidents. One of these was a Serious Personal Injury, nine were Dangerous Occurrences (one was a retrospective notification dating back to 2008-2009) and one was an Incapacity resulting in more than 30 days off work.

Safety Initiatives

The following initiatives contributed to ANSTO's commitment to the health and

Appendix 4 | *Occupational Health and Safety Act 1991,* section 74

safety of employees, visitors and contractors.

- Electrical Safety toolbox talk rollout – provide up to date information on the organisation requirement for working with electricity
- Contractor Management Review – improve the training and management of contractors on site
- Event Reporting – review the investigative protocols used to improve responsiveness
- Emergency Exercise – ANSTO regularly, along with NSW Emergency Services Organisations, tests its emergency management arrangements.
- Men's Health Program – onsite medical appointments targeting men's health issues
- Women's Health Program – onsite medical appointments targeting women's health issues
- Bowel Screening – in line with the annual Rotary initiative, free screening kits were made available for all staff
- Flu Vaccination Program – free vaccinations available for employees and contractors.

In 2009-2010 ANSTO employees and contractors supported the Australian Red Cross through the mobile blood donor services, held on site over eight days.

Australian Radiation Protection and Nuclear Safety Regulations 1999, Statutory Rules 1999 No. 37 as amended.

Occupational Radiation Exposure

Everyone is exposed to ionising radiation from natural sources. People may also be exposed to radiation from non-natural sources, including nuclear medical procedures for diagnosis and treatment of certain illnesses. Personal radiation exposure ('dose') is measured in sieverts (Sv), however, typical annual exposures are so small that they are usually expressed in units of one thousandth of a sievert, known as a millisievert (mSv). According to the most recent data from ARPANSA, the average dose an Australian receives from natural background radiation (excluding medical sources) is 1.5 mSv per year. Federal and State regulations require that a member of the public should receive no more than 1 mSv per year from radiation sources other than background radiation and medical procedures. The regulatory limit for radiation workers is 20 mSv per year, averaged over five years, with no more than 50 mSv in any one year. This is derived from recommendations made by the International Commission on Radiation Protection (ICRP), who have specified three basic principles for radiation protection, which are applied at ANSTO:

Occupational Health and Safety Act 1991, section 74

Appendix 4

Table 1: Effective dose

	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010
Maximum effective dose mSv	10.2	9.4	8.9	8.6	7.0
Average effective dose mSv	0.8	0.6	0.6	0.6	0.4
Collective effective dose person-mSv	690	545	531	542	399

Table 2: Distribution of individual effective dose

dose ranges (mSv)	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010
0 to < 2	751	926	914	907	890
2 to < 5	61	41	36	37	28
5 to < 10	28	13	13	12	8
10 to < 15	1	0	0	0	0
> 15	1	0	0	0	0

1 All exposures to ionising radiation shall have a positive net benefit

2 All exposures shall be maintained As Low As Reasonably Achievable (ALARA), accounting for social and economic factors

3 All exposures shall be less than the relevant statutory limit.

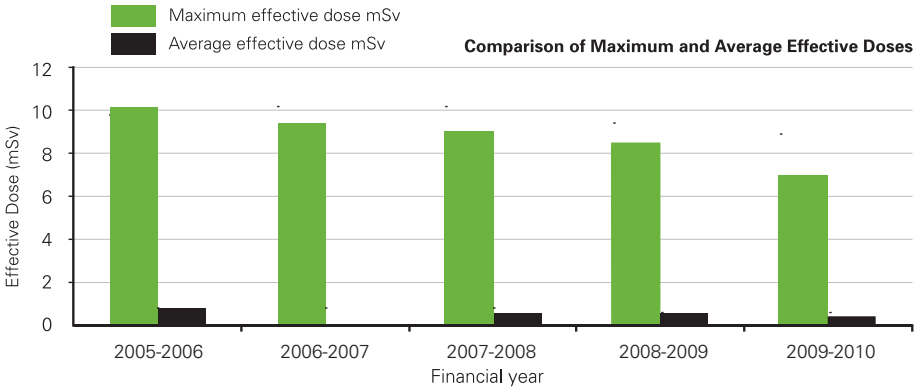
The application of these principles, requires us to ensure that our occupational exposures are not just less than the statutory dose limit(s), but are as far below them as we can reasonably achieve. To this end ANSTO has imposed its own annual dose constraint of 15 mSv to any member of staff, visitor or contractor.

The radiation exposure of ANSTO's workers who are routinely engaged in working with ionising radiation, is monitored by our specialist dosimetry service, with records of all exposures maintained. Monitoring results for 2009-2010 show that the radiation doses received by ANSTO workers remain significantly below regulatory limits.

Table 1 shows the maximum, average and collective effective doses for the past five years. Collective effective dose is the total cumulative dose to an exposed group, in this case all ANSTO personnel registered with our radiation dosimetry service.

Table 2 shows the distribution of individual effective doses over the same period. The graph in Figure 1 compares maximum and average effective doses. Regulations give annual dose limits for radiation workers for the whole body (effective dose), for the skin (shallow dose) and for extremities such as hands or feet. The dose limits are:

Appendix 4 *Occupational Health and Safety Act 1991,* section 74



- whole body 20 mSv, averaged over five years
- shallow (skin) 500 mSv
- extremities 500 mSv.

Emergency preparedness and responses

ANSTO and emergency services organisations jointly maintain a 24-hour emergency response capability to deal with incidents at ANSTO's Southern Sydney campus. The Response Plan for Accidents and Incidents describes how an emergency response will be coordinated and identifies who is responsible for which actions. Each organisation has standing procedures detailing each individual response. NSW emergency services manage responses to emergencies with potential significant offsite radiological consequences at state level according to the Lucas Heights Emergency Sub Plan. There is also a district-level Lucas Heights Emergency Evacuation Sub Plan supporting these arrangements. In the event of an emergency, ANSTO staff would give technical assistance and practical support to emergency service organisations. ANSTO maintains a close working relationship with emergency service organisations through the Local Liaison Working Party. The working party includes ANSTO specialists and representatives of emergency service organisations, local government, and support organisations, including NSW Health. ARPANSA is an observer.

An ongoing program of emergency training and evacuation drills is in place for all of site. Staff in each work area undergo training in the local emergency response protocols and are familiarised with the appropriate muster points. This training is supplemented with evacuation drills that are run with the respective Building Wardens. ANSTO staff continued to run the Radiological Awareness Program for local emergency service organisations and functional groups in cooperation with ARPANSA. Specific radiological training is also provided to the NSW Fire Brigade members as part of their HAZMAT training.

Freedom of Information Act 1982, subsection 8(1)

Appendix 5

The Freedom of Information Act 1982 (FOI Act) provides the public with a general right of access to documents held by Australian Government agencies, including ANSTO. This general right is limited by exceptions to protect essential public interests, including the privacy of individuals and the business affairs of those who give information to the agency.

The following information is provided in compliance with Section 8 of the *FOI Act.* Details of the functions of the organisation, membership of the Board and decision-making powers of the Board and the Executive are provided on pages 95, 96 and 105.

Arrangements for external participation

Liaison groups

The Local Liaison Working Party (LLWP), established in 1967, comprises representatives from the NSW Police, Ambulance, Fire Brigades, Rural Fire Service, the NSW Department of Environment and Conservation, the NSW Department of Health, the Australian Federal Police, the Georges River District Emergency Management Officer, the State Emergency Management Committee, the State Emergency Service, Sutherland Shire Council and ANSTO, as well as an observer from ARPANSA. The LLWP is a communication forum for all parties which play a role in emergency preparedness and response at ANSTO's Southern Sydney campus.

ANSTO state government arrangements

Given that ANSTO is located in New South Wales, it liaises with a range of NSW departments and authorities responsible for safety, environmental planning and related matters.

Associated organisations

AINSE, an association of ANSTO, the Institute of Geological and Nuclear Science (New Zealand), and 39 universities, arrange access by staff and students of Australasian universities to the major facilities at ANSTO.

Other arrangements

Less formal arrangements exist for promoting discussions, the exchange of views and/or collaboration with organisations outside the Commonwealth Government. These organisations include local government authorities, universities, standards bodies, professional societies, unions and staff associations, industrial groups and international nuclear agencies.

Categories of documents held

Computer software packages, computer printouts, technical books and reports, and International Nuclear Information System documents are available for purchase. Single copies of the annual report, Nuclear Matters (staff newsletter), strategic plans, ANSTO emergency plans, environmental monitoring reports, general information literature, videos and DVDs (under loan arrangements) are appropriately available on request.

Appendix 5 *Freedom of Information Act 1982,* subsection 8(1)

Documents relating to decision-making processes include Cabinet documents about matters in which ANSTO has an interest; ministerial correspondence and directions; ANSTO Board agenda, memoranda and decisions; deeds, legal contracts and formal agreements; minutes and submissions; employment, delegations, security, finance and accounting handbooks and manuals.

General correspondence includes: ministerial briefs; speeches; conference papers for national and international meetings; parliamentary questions and answers; cables, telexes and facsimiles; and general records files.

Technical documents held include: scientific and technical reports and laboratory notes comprising patents and inventions; computer media; plant and equipment operating manuals; maintenance, quality assurance and safety manuals; reactor operating authorisations, records and log books; radioisotope quality control procedures manuals; radioisotope catalogues and price lists; engineering service general records; nuclear material movement vouchers and accounting records; photographs; and radiographs.

Health and safety documents include: staff medical records; safety-related survey records; film badge and radiological records; accident reports; and emergency response procedures.

Administration documents held include: personnel records such as staff promotion files; ANSTO awards; organisation and establishment reports; compensation files; computer media with administrative instructions and information storage; staff lists and classifications; mailing lists; visitor and contractor records; Freedom of Information requests; accounting records; pay-roll, flexitime and overtime records; tender and contract documents; building plans, specifications and instructions; directives; orders; memoranda; bulletins; notices; and information.

Other documents held include drawing office records such as plans, microfilm, drawings, maps and photographs.

Facilities for access

By arrangement, FOI inquirers can peruse information in the Visitors Centre at the entrance to ANSTO.

Information about ANSTO is also available on the internet through the organisation's homepage at www.ansto.gov.au. ANSTO also has a free enquiry service for members of the public, which is outlined in the Community Right to Know Charter available at www.ansto.gov.au. Interested parties are encouraged to contact enquiries@ansto.gov.au for any further information.

Members of the public may also obtain access to scientific publications from ANSTO Publications Online at apo.ansto.gov.au

Contact

FOI requests and other arrangements for access to documents should be directed to FOI Coordinator, ANSTO, Locked Bag 2001 Kirrawee DC NSW 2232, Australia or via email to government.liaison@ansto.gov.au

Index of compliance with reporting guidelines

Appendix 6

Index of compliance with reporting guidelines under various Acts, Regulations and Orders applicable to ANSTO as a Commonwealth authority

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Acronyms

ADWG	Australian Drinking Water Guidelines
AEIFRS	Australian Equivalents to International Financial Reporting Standards
AINSE	Australian Institute of Nuclear Science and Engineering
ALARA	As Low as Reasonably Achievable
AMT	Australian Membrane Technologies
ANAO	Australian National Audit Office
ANSTO	Australian Nuclear Science and Technology Organisation
ANTARES	Australian National Tandem Accelerator for Applied Research
ARI	ANSTO Radiopharmaceuticals and Industrials (ANSTO Health)
ARPANSA	Australian Radiation Protection and Nuclear Safety Agency
BMRI	Brain and Mind Research Institute
CAC Act	Commonwealth Authorities and Companies Act 1997
CEA	French Atomic Energy Commission
CERN	European Organisation for Nuclear Research
DIISR	Department of Innovation, Industry, Science and Research
EEO	Equal Employment Opportunity
EMS	Environmental Management System
ESD	Ecologically Sustainable Development
FDG	Fluorodeoxyglucose
FOI	Freedom of Information
GATRI	Gamma Technology Research Irradiator
HIFAR	High Flux Australian Reactor
HIP	hot isostatic pressing
IAEA	International Atomic Energy Agency
ISO	International Organisation for Standardisation
KAERI	Korean Atomic Energy Research Institute
LLWP	Local Liaison Working Party
mSv	millisieverts
NCRIS	National Collaborative Research Infrastructure Strategy
NDA	Nuclear Decommissioning Authority
NSW	New South Wales
OPAL	Open Pool Australian Light-water reactor
PBR	Peripheral-type Benzodiazepine Receptor
PET	Positron Emission Tomography
PSSap	PSS accumulation Plan
STAR	Small Tandem Accelerator for Applied Research
Sv	Sieverts
USDOE	US Department of Energy
UNESCO	United Nations Educational, Scientific and Cultural Organisation

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