

# **NEW ZEALAND SYNCHROTRON GROUP LIMITED**



**ANNUAL REPORT 2009**



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## CHAIRMAN'S REPORT

The New Zealand Synchrotron Group Ltd (NZSG) has now completed its third year of operation. It has been an important period of consolidation and development for the company. Access to the Australian Synchrotron expanded as its beamlines became fully operational and the company was able to give full attention to providing support for the New Zealand research community and ensuring that the country obtains value from the significant investment in the Synchrotron.

In accordance with the Subscription Agreement signed between the company and the Australian Synchrotron, the final instalment of capital to acquire shares in the Australian Synchrotron Holding Company (ASHCo) was paid in October 2008. The first full annual payment of operating costs of A\$768,750 was also made. The access arrangements for New Zealand researchers to the Australian Synchrotron are in place and New Zealand researchers have been awarded beamtime through both the Merit and the Preferred Access routes in increasing numbers.

Under contracts which finished on 30 June 2009, the company had a strong revenue base from a Capability Build grant from the Ministry of Research, Science and Technology and from an International Development Fund (IDF) grant from the Tertiary Education Commission subcontracted to the company from Massey University. This has allowed the appointment of a Technical Director and the establishment of a New Zealand Synchrotron Support Programme to raise awareness in synchrotron science and to fund research, training and travel to synchrotrons in Australia and elsewhere.

Day to day management of NZSG's activities has been contracted to a secretariat from the Royal Society of New Zealand. The scope of the services provided by the Society includes;

- providing secretariat services to the Board,
- acting on their behalf in governance and access arrangements for the Australian Synchrotron,
- management of the funding support programme,
- promoting the development of synchrotron science,
- processing applications for beamtime as part of New Zealand's preferred access to the Australian Synchrotron,
- maintaining the company's accounts,
- liaising with the New Zealand government and NZSG shareholders on behalf of the Board.

The company had budgeted to operate with a very small surplus for the year and in fact did so on its basic trading operations, but the strengthening of the New Zealand dollar during the year meant that the company experienced significant losses on foreign exchange fluctuations of \$71,736 on the assets held in Australian dollars as part of the investment in the Australian Synchrotron. In addition, a decision was taken to amortise the investment in the Synchrotron over the 5 remaining years of

guaranteed Preferred Access. The allowance for depreciation was \$1,142,750 and the combined impact of these two factors generated an overall loss of \$1,158,545. The company does not have income tax to pay for the year ended 30 June 2009.

With the completion of the Capability Build contracts, the company has no other significant sources of revenue, other than interest on funds it holds. It does however have cash reserves in excess of \$300,000. The Directors intend that with modest supplementing from shareholders, that these funds be employed over the coming four years to contract secretariat services at a reduced level and to prepare a case for possible New Zealand investment in the next stage of development of the Australian Synchrotron.

As the commissioning of the initial set of beamlines at the Australian Synchrotron nears completion, attention is now focused on making decisions on what new beamlines and other features should be developed in the future. A science case is currently being prepared and a comprehensive business case is being developed to be submitted to potential funding parties and investors by the Board of ASHCo. There is strong interest in Australia and a willingness to include New Zealand in the development. On behalf of its shareholders and the New Zealand research community, NZSG has already expressed an interest in participating in the development. We will work with the government, existing shareholding institutions and other potential investors to negotiate for ongoing access to the Synchrotron in line with the current arrangements. We will try to secure ongoing preferred access for our shareholders to the existing and any new beamlines.

The board has been very well supported by the Royal Society of New Zealand who provide secretariat services to NZSG. In particular, I would like to acknowledge the contribution made by Don Smith in assisting the board and by Bridget Ingham in administering the New Zealand Synchrotron Support Programme. I would also like to acknowledge the contribution from the Access Committee (Chaired by Professor Geoff Jameson with Dr Graeme Gainsford, Associate Professor Mike Reid and Associate Professor Metcalf) who have evaluated all requests for merit access and for funding support.

Finally, I would like to thank my fellow directors.

A handwritten signature in blue ink that reads "G. A. Carnaby". The signature is written in a cursive, flowing style.

GA Carnaby  
Chair

## **BUSINESS REVIEW**

### **Investment in the Australian Synchrotron**

Through the original investment in the Australian Synchrotron in October 2007, NZSG is both a member of the Australian Synchrotron Company (ASC) and a shareholder in the Australian Synchrotron Holding Company (ASHCo). The shares in ASHCo are fully paid with the final instalment of capital (A\$1.5 million), amounting of 30 cents per share, being paid on 31 October 2008.

The Subscription Agreement signed between NZSG and the two synchrotron companies also provides for an annual contribution until 2013 of A\$750,000, with adjustments for movements in the cost of living, from New Zealand towards the operating costs of the Synchrotron. A payment of (A\$768,750) was made to ASC on 28 February 2009.

The Board has appointed Dr Don Smith to be its representative on the Australian Synchrotron Company's Council of Members and at ASHCo shareholder meetings and, until 30 June 2009, Dr Bridget Ingham was the contact person for access arrangements and user liaison. Dr Carnaby is a member of the boards of ASC and ASHCo.

During the year, after receiving approval from its shareholders, the two synchrotron companies applied for and were granted charitable company status within Australia and exemption from liability for income tax. NZSG shareholders voted to support the companies making the necessary changes to their constitutions to facilitate the application.

### **Tax-Exempt Status**

A proposal was put to NZSG shareholders in February 2009 to amend the company's constitution and the Participants' Agreement so that the company could apply for exemption from being liable for income tax. The need for this change arose because the investment in the Australian Synchrotron is treated as a Foreign Investment Fund and the company was exposed to paying income tax on NZSG's share of ASHCo's earnings, and also on foreign exchange gains (as the company's major assets are held in Australia). The main impact of making the changes is that shareholders can no longer receive distributions from the company, including dividends or the proceeds from winding up the company.

Nine shareholders, representing 85% of the votes approved the changes. Approval for the exemption has been received from the Royal Society of New Zealand and the Inland Revenue Department. The tax exemption took effect from 1 July 2009.

## Access Arrangements to the Australian Synchrotron

The first of the beamlines was successfully commissioned in mid 2007 and since then all but one of the originally planned beamlines have become operational.

Approximately 50% of the available beamline time is assigned to “merit” access and competitive applications are sought from researchers worldwide, including from New Zealand. The Australian Synchrotron makes calls every four months for merit access to the beamlines. Applications are made directly to the Australian Synchrotron with no direct involvement from NZSG apart from promoting the opportunity to apply via our website.

Approximately 30% of the available beamline time is set aside explicitly for researchers from the Foundation Investors. This arrangement bypasses the “merit” process and ensures that researchers who did not obtain or apply for merit access can gain access directly as a result of their institution being a Foundation Investor. Researchers from the company’s shareholders apply through NZSG and their proposals are evaluated by an Assessment Committee.

Since late 2008, in recognition of the contribution New Zealand makes to operating costs, the Australian Synchrotron began contributing towards the travel costs for New Zealand researchers who obtained beamtime at the Australian Synchrotron on an equal basis with Australian researchers. These funds are administered through NZSG.

Use of the Synchrotron by New Zealand researchers has increased steadily as beamlines have been commissioned. The table below shows the growth in number of groups awarded beamtime, both merit and preferred access since January 2008.

### *No. NZ groups with scheduled time (merit and preferred) at the AS*

Beamline	2008/1	2008/2	2008/3	2009/1	2009/2	2009/3
Protein Crystallography		1	2	1	4	2
Infrared Microscopy	2	1		1	1	
Powder Diffraction	1	2	5	4	3	3
Soft x-ray spectroscopy			1	1	2	4
Small and wide angle x-ray scattering				1	1	2
X-ray fluorescence microscopy					2	
X-ray absorption spectroscopy						3
<b>Total</b>	<b>3</b>	<b>4</b>	<b>8</b>	<b>8</b>	<b>13</b>	<b>14</b>

## Decisions on Access and Funding Support

The Board has established an Access Committee to make the decisions on applications for preferred time access, funding for synchrotron science or funding support for the costs of travel to synchrotrons. The members of the Committee are:

Professor Geoff Jameson, Massey University (Chair)  
Dr Graeme Gainsford, Industrial Research Ltd  
Associate Professor Peter Metcalf, University of Auckland  
Associate Professor Mike Reid, University of Canterbury

The Committee has not met during the year formally as a group but the individual members have communicated throughout the year on proposals they have been asked to assess.

The criteria for selecting proposals were developed and approved by shareholders and is published on the NZSG web site along with other information on accessing support.

The table on the following pages lists the New Zealand researchers who have gained beamline access to the Australian Synchrotron from July 2008 onwards, and where applicable, the funding support provided to them.

## **Support for Synchrotron Scientists**

Until 30 June 2009, the company operated the New Zealand Synchrotron Support Programme (NZSSP) with funds originating from the Tertiary Education Commission. With the goal of optimising synchrotron usage among New Zealand scientists and ensuring ongoing sustainability, the objectives of the programme have been:

- To develop and disseminate a database of synchrotron expertise in New Zealand;
- To develop and implement an agenda for raising synchrotron awareness among New Zealand scientists, including workshops and/or conferences;
- To establish and implement a limited system of competitive funding to develop new projects that require synchrotron use; and
- To establish and implement a limited system of competitive funding for travel, accommodation and sustenance costs associated with synchrotron use, with special provisions for emerging users.

In addition, the company also received funds until 30 June 2009 from a three year Capability Build grant from the Ministry of Research, Science and Technology, with the following objectives:

- To develop and sustain a secretariat capability;
- To undertake a synchrotron science awareness-raising programme; and
- To provide funding support for developing synchrotron science capability.

As a consequence the company was able to appoint a Technical Director, Dr Bridget Ingham and run a full programme of support for New Zealand researchers including holding a New Zealand Synchrotron Users Workshop, sending representatives to the Users Meeting in Melbourne in December 2008 and funding researchers to travel to and experiment at various synchrotrons around the world as detailed below.

Some of the MoRST funding was earmarked for supporting new researchers to attend synchrotron science summer schools. The first of these participated in summer schools in August and September 2008 in Japan and the USA and in July 2009 NZSG ran a Protein Crystallography workshop at the Australian Synchrotron for 12 emerging researchers. Funds were also used to send 15 researchers to a Winter School held by the Australian Synchrotron immediately before the Protein Crystallography workshop.



The annual New Zealand Synchrotron Users Workshop was held in Wellington in April 2009. It was attended by 53 researchers including a number of new users. The programme included presentations by experienced users and by representatives from the Australian Synchrotron. Dr Ingham has also given seminars to selected audiences on specialist topics to help raise awareness in the opportunities provided from the investment in the Australian Synchrotron.

In addition to supporting the travel costs of researchers using the Australian Synchrotron, NZSSP have been used to assist with the travel costs of using synchrotrons elsewhere in the world where the research could not be carried out on the Australian Synchrotron, and also of providing seed funding so that additional research leading to the use of the Australian Synchrotron could be initiated.

The tables below provide details of the activities supported.

***Science Project Funding Awarded***

<b>Person</b>	<b>Project</b>	<b>Funding</b>
Dr Aaron Marshall Massey University	“ <i>In-situ</i> electrochemical XAS of IrO <sub>2</sub> ”	\$18,850
Dr Richard Kingston University of Auckland	“Crystallographic investigation of Rous sarcoma virus capsid protein assembly”	\$13,247
Dr Greg Giles University of Otago	“Mapping of subcellular structures using SRIXE”	\$12,500
Dr Chongwen Zou University of Auckland	“Characterization of nitrogen-doped p-type ZnO by X-ray absorption near-edge structure spectroscopy and photoelectron spectroscopy”	\$12,000
Professor Kurt Krause University of Otago	“Structurally characterizing how viral Chemokine Binding Proteins (CBPs) are able to bind”	\$12,500
Dr Bridget Ingham Industrial Research Ltd	“ <i>In situ</i> monitoring of FeCO <sub>3</sub> scale nucleation and growth”	\$13,740
Dr Richard Tilley Victoria University of Wellington	“Synthesis and Applications of Nanoparticles”	\$8,850
Dr Martin Williams Massey University	“Building structure-function bridges in soft biopolymeric materials: Probing the architecture of polysaccharide gels and modelling network properties”	\$15,900
Dr Sue Cutfield University of Otago	“Preparation of diffraction-quality crystals of a membrane-bound bacitracin sensor and DNA-binding protein (BcrR) from <i>Enterococcus faecalis</i> ”	\$1,000
Dr Geoff Waterhouse University of Auckland	“XANES characterization of mixed metal oxide photonic crystals”	\$11,500

<i>NZ research groups awarded time (merit and preferred) at the AS (July 2008 – June 2009)</i>				
<b>Researchers</b>	<b>Institution</b>	<b>Cycle</b>	<b>Beamline</b>	<b>Access/ Funding Support</b>
Dr Mark Bowden Dr Martin Ryan	IRL	2008-2	Powder diffraction "Initiation of hydrogen release from ammonia borane"	Preferred access 2 days total \$3,240
Fern Kelly  Dr Bridget Ingham	VUW IRL	2008-2	Powder diffraction "Characterisation of Ag nanoparticles attached to natural and synthetic fibres"	Preferred access 2 days total \$3,311
Prof Henrik Kjaergaard Dr Joseph Lane Benjamin Miller	University of Otago	2008-2	Infrared spectroscopy "Gas phase infrared spectroscopy of water dimer and acetyl acetone"	Preferred access 2 days \$5,000
Dr Bridget Ingham John Watt	IRL VUW	2008-3	Powder diffraction "In situ growth of palladium nanoparticles from solution, monitored by x-ray diffraction"	Merit access 4 days \$4,709
Dr Bridget Ingham Prof Jeff Tallon Keryn Williams Benjamin Mallet	IRL IRL IRL VUW	2008-3	Powder diffraction "Anomalous diffraction of Bi <sub>2</sub> Sr <sub>2</sub> CaCu <sub>2</sub> O <sub>8</sub> (Bi-2212): probing the van Hove singularity"	Merit access 4 days
Dr Kevin Stevens (Quest Reliability)	Quest Reliability Ltd	2008-3	Powder diffraction "Carbide mapping in ethylene pyrolysis tubes"	Merit access 3 days \$829
Dr Aaron Marshall Prof Richard Haverkamp	Massey University	2008-3	Powder diffraction "PDF analysis of IrTaO"	Preferred access 3 days \$2,812
Professor Ted Baker Assoc Prof Peter Metcalf Dr Chris Squire	University of Auckland	2008-3	Protein crystallography "X-ray crystallographic studies of medically and biologically significant protein molecules"	Merit access 4 days
Professor Jim Metson Dr Geoff Waterhouse Muhammed Nadeem Chuong Nguyen	University of Auckland	2008-3	Powder diffraction "Intercalated aluminium hydroxides"	Preferred access 3 days \$4,255
Dr Sue Cutfield	University of Otago	2008-3	Protein crystallography "Crystal structure of BMPRII:GDF9 complex"	Preferred access 4 days (not taken up)
Dr Chongwen Zou Xiaodong Yan Jie Han	University of Auckland	2008-3	Soft x-ray "Characterization of N- doped p-type ZnO"	Merit access 7 days \$5,098
Dr Graeme Gainsford	IRL	2009-1	Powder diffraction "Determination of the structure and absolute configuration of chiral scaffold molecules"	Merit access 2 days \$840

<i>NZ research groups awarded time (merit and preferred) at the AS (July 2008 – June 2009)</i>				
<b>Researchers</b>	<b>Institution</b>	<b>Cycle</b>	<b>Beamline</b>	<b>Access/ Funding Support</b>
Dr Martin Allen Professor Jim Metson Dr Geoff Waterhouse Linus Perander	University of Canterbury University of Auckland	2009-1	Soft x-ray “The nature of chemical bonding in high performance noble metal oxide Schottky contacts to zinc oxide”	Merit access 7 days \$2,537
Dr Joseph Lane Benjamin Miller Allanah Paul	University of Otago	2009-1	High resolution infrared “Gas phase far infra-red spectroscopy of allyl alcohol and propargyl alcohol”	Preferred access 4 days \$3,850
Prof Richard Haverkamp Dr Aaron Marshall	Massey University	2009-1	Powder diffraction “Structure development in hydrothermally produced nano titanium dioxide”	Preferred access 3 days \$2,495
Dr Martin (Bill) Williams Erich Schuster Aurelie Cucheval Stephen Mudie Leif Lundin James Mardel Niklas Loren	Massey University  Aust. Synch. CSIRO CSIRO Sweden	2009-1	Small angle x-ray scattering “Building structure-function bridges in soft biopolymeric materials: Probing the architecture of polysaccharide gels and modeling network properties”	Merit access 2 days \$3,218
Prof Jeff Tallon Dr Bridget Ingham Prof Christian Bernhard	IRL IRL Fribourg University, Switzerland	2009-1	Powder diffraction “The effect of phase separation on spin freezing in HTS superconductors”	Merit access 2 days \$1,772
Dr Bridget Ingham Dr Richard Tilley Khadijah Kamarudin	IRL Victoria University of Wellington	2009-1	Powder diffraction “Size-dependent melting of In nanoparticles”	Merit access 3 days \$1,555
Dr Renwick Dobson  Prof Geoff Jameson	University of Melbourne (Bio 21) Massey University	2009-1	Protein crystallography	Co PI on University of Melbourne proposal
Dr Chris Squire Dr Neil Paterson Hae Joo Kang Richard Bunker	University of Auckland	2009-2	PX2 (protein micro-crystal) Solving the structure of two bacterial surface proteins; one a pilin, one a pilin-accessory protein.	Expert user 2 days \$2,756
Dr Gregory Giles Bevan Gang Sidharth Patel	Otago University	2009-2	X-ray fluorescence microscopy Role of transition metal ions in human atherosclerotic lesions	Preferred access 3 days \$3,105
Prof Richard Haverkamp Isabel Beattie Melissa Basil-Jones	Massey University	2009-2	Soft x-ray “Formation of fluorocarbons on carbon anodes in the Hall-Heroult cell”	Preferred access 6 days \$4,060

***Funding Support for Other Activities***

<b>Date</b>	<b>Person</b>	<b>Activity</b>	<b>Funding</b>
Jul 2008	Professor Peter Metcalf University of Auckland	Undertaking experiments at the Swiss Light Source, Switzerland. “Crystallographic studies of insect virus micro-crystals”	\$4,737
Aug 2008	Dr Christian Dotzler Industrial Research Ltd	Training – Stanford-Berkeley Summer School, USA	\$205
Nov 2008	Greg Betzel University of Canterbury Ben Miller University of Otago Jan Richter Massey University	Training – Cheiron 2008 Summer School at Spring-8, Japan	\$10,487
Dec 2008	Dr Greg Giles University of Otago	Undertaking experiments at the Advanced Photon Source, USA “Mapping of subcellular structures using SRIXE”	\$12,500
Nov 2008	Professor Peter Metcalf University of Auckland	Undertaking experiments at the Swiss Light Source, Switzerland. “Crystallographic studies of insect virus micro-crystals”	\$9,364
Apr 2009	Professor Peter Metcalf University of Auckland	Undertaking experiments at the Swiss Light Source, Switzerland. “Crystallographic studies of insect virus micro-crystals”	\$8,977
Jun 2009	Dr John Scott Landcare Research (in association with Plant & Food Research)	Undertaking experiments at the Advanced Photon Source, USA. “X-ray microtomographic characterization of soil microbial physical habitat in soil aggregates”	\$5,981
Jun 2009	Dr Christian Dotzler Industrial Research Ltd	Training – SSRL Summer School, USA	\$177

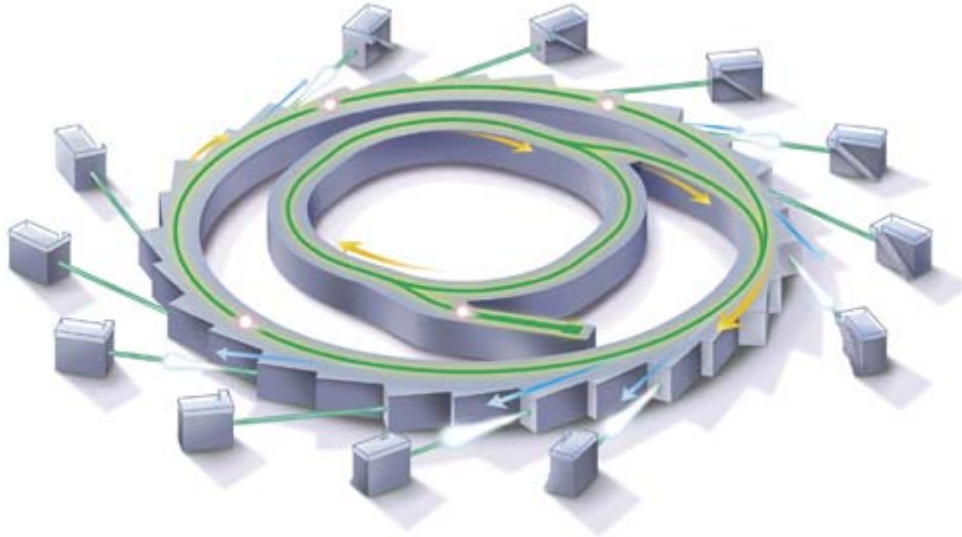
NZSG was not able to secure ongoing government funding for capability development beyond June 2009, however, with the assistance of the Australian Synchrotron, the company will continue to provide partial support for the travel costs of researchers undertaking experiments at the facility in Melbourne.



D K W Smith  
Executive Officer  
Secretariat

## Australian Synchrotron

A synchrotron is a large research facility that generates an extremely intense beam of electromagnetic radiation ('light') that can be used for scientific experiments. The radiation is produced by taking a stream of electrons travelling at close to the speed of light, and deflecting them with magnetic fields. The light covers the electromagnetic spectrum from the infrared to the hard x-ray region.



Electrons are generated in the linear accelerator (linac), and progress into the smaller 'booster' ring, where they are further accelerated up to their final velocity (99.99% of the speed of light, a kinetic energy of 3.0 GeV). At this point they are 'injected' into the larger storage ring, where they circulate for a period of hours to days. The electron beam is steered and focused by magnetic fields. At each point where the beam is deflected, electromagnetic radiation is produced tangential to the beam path. 'Insertion devices', undulators and wigglers, are periodic magnet structures that serve to increase the radiation flux by up to five orders of magnitude. The radiation produced can be used in many different experiments and techniques. The light is channelled from the ring down a number of 'beam lines', each of which is optimised for a particular experimental technique.

The status of the various beam lines at the Australian Synchrotron can be summarised as follows:

- Protein crystallography (PX1) was the first beam line to become operational and began accepting general users in January 2008. This technique uses x-ray diffraction to determine the structure of proteins, used in drug design and understanding biochemical interactions.
- Infrared spectroscopy and microscopy (IR) also came online in early 2008. The beam line features two endstations: an FTIR spectrometer and an infrared microscope.
- Powder diffraction (PD) began taking general users in February 2008 and was fully operational by May 2008. This beam line is a general purpose diffraction beam line with several sample environments for observing changes in materials structure as a function of temperature, pressure, time, etc.

- The soft x-ray absorption spectroscopy (SXR) beamline was available for general users from the September-December 2008 cycle. It operates at low x-ray energies and is most useful for surface studies.
- Final commissioning of the X-ray absorption spectroscopy (XAS) beam line was completed at the end of 2008 and became available to general users from January 2009. This technique is useful for probing elemental valence states and determining the local structure around an atomic species of interest.
- Small-angle x-ray scattering (SAXS), combined with wide-angle x-ray scattering (WAXS) is a useful technique for determining large scale (1-100 nm), short-range order in materials. This beam line came online at the beginning of 2009.
- The commissioning of the second protein crystallography and small-molecule crystallography beamline (PX2) was completed in mid 2009. It complements the existing protein crystallography beam line and is able to measure micron-sized crystals and other weakly-scattering or hard to crystallise systems.
- The microspectroscopy beam line (XFM) construction was also completed in early 2009. This beamline combines the high spatial resolution of a microscope with the information that can be gleaned through x-ray fluorescence spectroscopy.
- The medical imaging and therapy beam line is currently under construction. This involves a 150 m long enclosure being built which extends well outside the synchrotron building.

The New Zealand Synchrotron Group is one of ten foundation investors, each of whom has contributed A\$5 million towards the initial suite of beam lines. This investment secures preferred (as-of-right) access for each foundation investor, spread over all the beam lines. For NZSG this typically amounts to approximately 3 days per beam line per four-month cycle. Proposals for preferred access are submitted at the same time as general access and undergo an internal selection process. The criteria the NZSG access committee has adopted seeks to favour new users to obtain beam time.

With the completion of the initial suite of nine beamlines, plans are now underway to add new beamlines to expand the facilities capabilities. The Australian Synchrotron has consulted with the research communities in Australia and New Zealand and a Science Case is currently in preparation. A business case fund the expansion is also being developed to present to potential investors. Along with all foundation investors, New Zealand has been offered the opportunity to contribute to the development and secure ongoing access to the enhanced facility.



# CORPORATE GOVERNANCE

## Board Composition

The company operates with a board comprising of 5 directors, including an independent chairman. Interim directors were appointed initially. These were replaced by a permanent board following elections which were held in April 2007.

The Directors during the period up to 30 June 2009 were:

Dr Garth Carnaby, Chair  
Dr Desmond Darby, GNS Science  
Professor Geoffrey Jameson, Massey University  
Professor James Metson, The University of Auckland  
Professor Ian Shaw, University of Canterbury

## Indemnities and Insurance

The Board has taken Directors and Officers Liability Insurance with Lumley General Insurance Limited. Coverage of up to \$5 million has been obtained.

## Attendance at Board Meetings

The following table shows the attendance at meetings of the Board for each director and the fees paid.

Director	No. meetings held during the year	No. meetings attended	Fees paid
Dr Garth Carnaby	6	6	\$6,000
Dr Desmond Darby	6	5	-
Professor Geoffrey Jameson	6	6	-
Professor James Metson	6	5	-
Professor Ian Shaw	6	4	-

## Donations

The company did not make any donations during the period from establishment up to 30 June 2009.

## Interests Register

During the course of undertaking its normal business activities in supporting the development of synchrotron science, the company provides assistance towards the travel costs for research staff from its shareholders. The practice at meetings of the board is for directors from organisations who are receiving financial support to declare an interest and to refrain from voting on that particular matter. During the period up to 30 June 2009 support was provided to staff from The University of Auckland, Massey University and the University of Canterbury.

The following significant entries relating to the directors are recorded in the Interests Register.

<b>Director</b>	<b>Organisation/Entity</b>	<b>Nature of Interest</b>
<b>Dr GA Carnaby</b>		
Shares Held	GA Carnaby & Associates Ltd	Controlling majority
Beneficiary of Trusts	Carnaby Trust	Trustee and discretionary beneficiary
Offices Held	National Provident Fund	Annuity/Defined benefit
	Institute of Environmental Science and Research Ltd	Deputy Chair
	Royal Society of New Zealand	President
	Canterbury Development Corporation	Chair
	Canterbury Economic Development Trustee Ltd	Chair
	Australian Synchrotron Co Ltd	Director
	Australian Synchrotron Holding Co Pty Ltd	Director
Other Interests	Lincoln University	Entrepreneur in Residence
	High Performance Computing Committee	Chairman
<b>Dr D Darby</b>		
Shares Held	Vector Ltd	Minority shareholder
	MEM Music Ltd	Majority shareholder
Offices Held	MEM Music Ltd	Director
	NZ Centre for Advanced Engineering	Director
	GNS Science	Senior manager
Other Interests	FRST	Chair Postdoc Fellowship Committee
<b>Prof GB Jameson</b>		
Shares Held	Tower Ltd	Minority shareholder
Beneficiary of Trusts	Estate of MEB Jameson	Discretionary beneficiary
Offices Held	Massey University	Employee
<b>Prof JB Metson</b>		
Shares Held	Vector Energy	Minority shareholder
	Pacific Lithium	Minority shareholder
Offices Held	University of Auckland	Employee
Other Interests	RIAG	Chair
<b>Prof IC Shaw</b>		
Offices Held	University of Canterbury	Employee
Other Interests	Sandoz GmbH, Austria	Consultant



**New Zealand Synchrotron Group  
Limited**

**Financial Statements  
for the year ended 30 June 2009**

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**New Zealand Synchrotron Group Limited  
Board Report  
for the year ended 30 June 2009**

The Board has pleasure in presenting the annual report of the New Zealand Synchrotron Group Limited ("NZSG") incorporating the financial statements and the auditor's report, for the year ended 30 June 2009.

NZSG administers the investment in Australian Synchrotron Holding Company (ASHC).

The Company has taken advantage of the reporting concessions available to it under sections 211(3) of the Companies Act 1993.

The Board of NZSG have authorised these financial statements presented on pages 6 to 20 for issue on 23 November 2009.

For and on behalf of the Board



.....  
Garth Carnaby  
Chairperson

23 November 2009



.....  
Desmond Darby  
Director

23 November 2009



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### Auditors' report

To the readers of the New Zealand Synchrotron Group Limited's Financial Statements for the year ended 30 June 2009

The Auditor-General is the auditor of the New Zealand Synchrotron Group Limited (the 'Company'). The Auditor-General has appointed me, Karen Shires, using the staff and resources of PricewaterhouseCoopers, to carry out the audit of the financial statements of the Company, on his behalf, for the year ended 30 June 2009.

### Unqualified Opinion

In our opinion:

- the financial statements of the New Zealand Synchrotron Group Limited on pages 6 to 20:
  - comply with generally accepted accounting practice in New Zealand; and
  - give a true and fair view of:
    - the New Zealand Synchrotron Group Limited's financial position as at 30 June 2009; and
    - the results of its operations and cash flows for the year ended on that date.
- Based on our examination the Company kept proper accounting records.

The audit was completed on 23 November 2009 and is the date at which our opinion is expressed.

The basis of the opinion is explained below. In addition, we outline the responsibilities of the Board of Directors and the Auditor, and explain our independence.

### Basis of Opinion

We carried out the audit in accordance with the Auditor-General's Auditing Standards, which incorporate the New Zealand Auditing Standards.

We planned and performed the audit to obtain all the information and explanations we considered necessary in order to obtain reasonable assurance that the financial statements did not have material misstatements, whether caused by fraud or error.

Material misstatements are differences or omissions of amounts and disclosures that would affect a reader's overall understanding of the financial statements. If we had found material misstatements that were not corrected, we would have referred to them in our opinion.

The audit involved performing procedures to test the information presented in the financial statements. We assessed the results of those procedures in forming our opinion.

Audit procedures generally include:

- determining whether significant financial and management controls are working and can be relied on to produce complete and accurate data;
- verifying samples of transactions and account balances;
- performing analyses to identify anomalies in the reported data;
- reviewing significant estimates and judgements made by the Directors;
- confirming year-end balances;
- determining whether accounting policies are appropriate and consistently applied; and
- determining whether all financial statement disclosures are adequate.

We did not examine every transaction, nor do we guarantee complete accuracy of the financial statements.

We evaluated the overall adequacy of the presentation of information in the financial statements. We obtained all the information and explanations we required to support our opinion above.

#### **Responsibilities of the Board of Directors and the Auditor**

The Board of Directors is responsible for preparing financial statements in accordance with generally accepted accounting practice in New Zealand. Those financial statements must give a true and fair view of the financial position of the Company as at 30 June 2009. They must also give a true and fair view of the results of operations and cash flows for the year ended on that date. The Board of Directors' responsibilities arise from the Financial Reporting Act 1993.

We are responsible for expressing an independent opinion on the financial statements and reporting that opinion to you. This responsibility arises from section 15 of the Public Audit Act 2001.

#### **Independence**

When carrying out the audit we followed the independence requirements of the Auditor-General, which incorporate the independence requirements of the New Zealand Institute of Chartered Accountants.

In addition to the audit we have carried out assignments in the area of taxation services which are compatible with those independence requirements. Other than the audit and these assignments, we have no relationship with or interests in the Company.



Karen Shires  
On behalf of the Auditor-General  
Wellington, New Zealand



PricewaterhouseCoopers

**New Zealand Synchrotron Group Limited**  
**Income Statement**  
**for the year ended 30 June 2009**

		2009	2008
		\$	\$
<b>Income</b>			
Income for Australian Operations	3	969,138	3,530,966
Income for NZ Operations	4	424,278	246,945
<b>Total Income</b>		<b>1,393,416</b>	<b>3,777,911</b>
<b>Expenditure</b>			
Amortisation Australian Synchrotron Group costs	10	1,142,750	-
Other operating costs	5	969,138	430,589
	6	440,073	(60,212)
<b>Operating Expenditure</b>		<b>2,551,961</b>	<b>370,377</b>
<b>Net (loss) / surplus before taxes</b>		<b>(1,158,545)</b>	<b>3,407,534</b>
Income tax expense	7	-	55,120
<b>Net (loss) / surplus after taxes</b>		<b>(1,158,545)</b>	<b>3,352,414</b>

The above Income Statement should be read in conjunction with the accompanying notes on pages 9 -20

for the year ended 30 June 2009

	<b>2009</b>	<b>2008</b>
	<b>\$</b>	<b>\$</b>
<b>Equity at the beginning of the year</b>	6,063,336	2,518,652
Capital paid in by shareholders	-	192,270
Net (loss) / surplus for the year	(1,158,545)	3,352,414
<b>Total equity at the end of the year</b>	<b><u>4,904,791</u></b>	<b><u>6,063,336</u></b>

The above Statement of Changes in Equity should be read in conjunction with the accompanying notes on pages 9 -20

New Zealand Synchrotron Group Limited  
Balance Sheet  
as at 30 June 2009

	Note	2009 \$	2008 \$
<i>Current assets</i>			
Cash and cash equivalents	8	370,022	1,159,451
Trade and other receivables	9	115,353	1,371,090
<b>Total current assets</b>		<b>485,375</b>	<b>2,530,541</b>
<i>Non-current assets</i>			
Investment in ASHC	10	4,571,000	5,817,337
<b>Total non-current assets</b>		<b>4,571,000</b>	<b>5,817,337</b>
<b>TOTAL ASSETS</b>		<b>5,056,375</b>	<b>8,347,878</b>
<i>Current liabilities</i>			
Trade and other payables	11	94,584	2,002,984
Current tax liability	7	-	12,203
Deferred income	12	57,000	269,355
<b>Total current liabilities</b>		<b>151,584</b>	<b>2,284,542</b>
<b>TOTAL LIABILITIES</b>		<b>151,584</b>	<b>2,284,542</b>
<b>Net assets</b>		<b>4,904,791</b>	<b>6,063,336</b>
<b>Equity</b>			
Share capital	13	2,824,036	2,824,036
Retained earnings		2,080,755	3,239,300
<b>TOTAL EQUITY</b>		<b>4,904,791</b>	<b>6,063,336</b>

The above Balance Sheet should be read in conjunction with the accompanying notes on pages 9 - 20  
For and on behalf of the Board



.....  
Garth Carnaby  
Chair Person

23 November 2009



.....  
Desmond Darby  
Director

23 November 2009



**New Zealand Synchrotron Group Limited**  
**Statement of Cash Flows**  
**for the year ended 30 June 2009**

	Note	2009 \$	2008 \$
<i>Cash flows from operating activities</i>			
<i>Cash was provided from:</i>			
Interest	4	44,491	76,291
NZ Government for ASC and NZSG operations		1,096,205	800,879
Shareholders for ASC operations		286,397	97,824
<b>Total cash provided</b>		<b>1,427,093</b>	<b>974,994</b>
<i>Cash was applied to:</i>			
ASC for Synchrotron operations		(972,486)	-
Other expenses		(663,997)	(238,828)
<b>Total cash applied</b>		<b>(1,636,483)</b>	<b>(238,828)</b>
<b>Net cash inflow from operating activities</b>	18	<b>(209,390)</b>	<b>736,166</b>
<i>Cash flows from investing activities</i>			
<i>Cash was provided from:</i>			
Shareholders		1,210,807	1,319,246
<i>Cash was applied to:</i>			
Payment of Shareholding		(1,790,846)	(2,709,878)
<b>Net cash outflow from investing activities</b>		<b>(580,039)</b>	<b>(1,390,632)</b>
Net decrease in cash held		(789,429)	(654,466)
Cash balance at the beginning of the year	8	1,159,451	1,813,917
<b>Cash balance at the end of the year</b>	8	<b>370,022</b>	<b>1,159,451</b>

**New Zealand Synchrotron Group Limited**  
**Notes to the Financial Statements**  
**for the year ended 30 June 2009**

## **Note 1. General information**

New Zealand Synchrotron Group (“the Company”) was formed on 13 September 2006. The purpose of the Company is to invest in the Australian Synchrotron by subscribing to shares in the Australian Synchrotron Holding Company Pty Limited (“ASHC”) and being a member of the Australian Synchrotron Company Limited. In addition, the Company also promotes synchrotron science, assists the development of capability of New Zealand researchers in synchrotron science and manages the access of New Zealand researchers to the Australian Synchrotron. It has eleven shareholders who are all either New Zealand universities or Crown Research Institutes. The company is managed by a five person board elected by the shareholders, including an independent Chair. The Chair receives remuneration; the other directors do not. The Royal Society of New Zealand has been contracted to provide secretariat services to the Board.

The Company’s revenue consists of grants from government agencies to build awareness and capability in synchrotron science and investment income. Its registered office is 3 Halswell Street, Thorndon, Wellington.

## **Note 2. Summary of significant accounting policies**

These financial statements have been prepared in accordance with Generally Accepted Accounting Practice in New Zealand. They comply with the New Zealand Equivalents to International Financial Reporting Standards (NZ IFRS) and other applicable Financial Reporting Standards, as appropriate for public benefit entities.

### **(a) Basis of preparation**

The principal accounting policies adopted in the preparation of the financial statements are set out below. These policies have been consistently applied to all the periods presented, unless otherwise stated.

#### *Statutory base*

New Zealand Synchrotron Group Limited (“NZSG” or the “Company”) is a company registered under the Companies Act 1993.

The financial statements have been prepared in accordance with the requirements of the Financial Reporting Act 1993.

#### *Differential reporting*

NZSG is a qualifying entity within the Framework of Differential Reporting. NZSG qualifies on the basis that it has less than 50 employees and total income below \$20 million. NZSG has taken advantage of all differential reporting concessions available to them except for NZ IAS 18 Revenue paragraph NZ6.1, NZ IAS 12 Income Taxes and NZ IAS 7 Statement of Cash Flows with which it has complied with fully.

#### *Historical cost convention*

These financial statements have been prepared under the historical cost convention, as modified by the revaluation of certain assets as identified in specific accounting policies below.

**(c) Foreign currency translation**

*(i) Functional and presentation currency*

The financial statements are presented in New Zealand dollars, which is the Company's functional and presentation currency.

*(ii) Transactions and balances*

Foreign currency transactions are translated into the functional currency using the exchange rates prevailing at the dates of the transactions. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation at year end exchange rates of monetary assets and liabilities denominated in foreign currencies are recognised in the income statement.

**(d) Revenue recognition**

Revenue comprises the fair value for the sale of goods and services, excluding Goods and Services Tax, rebates and discounts and after eliminating sales within the Company. Revenue is recognised as follows:

*(i) Interest income*

Interest income is recognised on a time-proportion basis using the effective interest method. When a receivable is impaired, NZSG reduces the carrying amount to its recoverable amount, being the estimated future cash flow discounted at original effective interest rate of the instrument, and continues unwinding the discount as interest income. Interest income on impaired loans is recognised using the rate of interest used to discount the future cash flows for the purpose of measuring the impairment loss.

*(ii) Government grants, sponsorships and donations*

Government grants, sponsorships and donations received are recognised in the income statement when the requirements under the grant agreement have been met. Any grants for which the requirement under the grant agreement have not been completed are carried as deferred Income until the conditions have been fulfilled.

**(e) Income Tax**

The income tax expense is calculated on the basis of the tax laws enacted at the balance date. Management periodically evaluates positions taken in tax returns with respect to situations in which applicable tax regulations are subject to interpretation and establishes provisions where appropriate on the basis of amounts expected to be paid to the Inland Revenue Department.

Deferred income tax is provided in full, using the liability method, on temporary differences arising between the tax bases of assets and liabilities and their carrying amounts in the financial statements. However, deferred income tax is not accounted for if it arises from the initial recognition of an asset or liability in a transaction that at the time of the transaction affects either accounting nor taxable profit or loss.

Deferred income tax assets are recognised to the extent that it is probable that future taxable profit will be available against which the temporary differences can be utilised.

From 1 July 2009 NZSG qualifies as a Registered Charity and therefore is no longer liable to pay income tax.

**(f) Goods and Services Tax (GST)**

The income statement has been prepared so that all components are stated exclusive of GST. All items in the balance sheet are stated net of GST, with the exception of receivables and payables, which include GST invoiced.

**(g) Cash and cash equivalents**

Cash and cash equivalents includes cash on hand, deposits held at call with financial institutions, other short-term, highly liquid investments with original maturities of three months or less that are readily convertible to known amounts of cash and which are subject to an insignificant risk of changes in value.

**(h) Trade receivables**

Trade receivables are recognised initially at fair value and subsequently measured at amortised cost, less provision for doubtful debts.

The recoverability of trade receivables is reviewed on an ongoing basis. Debts which are known to be uncollectible are written off. A provision for doubtful receivables is established when there is objective evidence that NZSG will not be able to collect all amounts due according to the original terms of receivables. The amount of the provision is the difference between the asset's carrying amount and the present value of estimated future cash flows, discounted at the effective interest rate. The amount of the provision is recognised in the income statement.

**(i) Investments and other financial assets**

NZSG classifies its investments in the following categories: financial assets at fair value through profit or loss, loans and receivables, held to maturity investments and available for sale financial assets. The classification depends on the purpose for which the investments were acquired. Management determines the classification of its investments at the initial recognition and re-evaluates this designation at every reporting date. Currently NZSG only has financial assets classified in two categories.

*(i) Loans and receivables*

Loans and receivables are non derivative financial assets with fixed or determinable payments that are not quoted in an active market. They arise when NZSG provides money, goods or services directly to a debtor with no intention of selling the receivable. They are included in current assets, except for those with maturities greater than 12 months after the balance sheet date which are classified as non-current assets. Loans and receivables are classified as 'trade and other receivables' in the balance sheet.

*(ii) Available for sale financial assets*

The investment in the Australian Synchrotron Company Limited is classified as an asset that is available for sale. As there are no active markets for this investment, it is stated at cost less impairment. Impairment is assessed annually at the balance sheet date and is primarily determined as the equivalent of the original cost of the investment on amortised on a straight line basis over the remaining useful life of the underlying asset (investment), to be determined once it is commissioned. The current beam line access agreement provides benefits from the investment until June 2013. The investment is therefore being amortised over the 5 year period commencing 1 July 2008.

**(j) Trade and other payables**

These amounts represent liabilities for goods and services provided to NZSG prior to the end of financial year which are unpaid. The amounts are unsecured and are usually paid within 30 days of recognition.

**(j) Sponsorship and donations expense**

Through the ordinary course of its activities the Company provides sponsorships and makes donations to advance its stated objectives. The Company recognises a liability for this expenditure when the recipient meets any eligibility criteria attached to a sponsorship or donation agreement.

**(k) Statement of Cash Flows**

The following are the definitions of the terms used in the statement of cashflows:

*(i)* cash is considered to be cash on hand, cash in transit, bank accounts and deposits with a maturity of no more than 3 months from the date of acquisition;

*(ii)* investing activities are those relating to the acquisition, holding and disposal of investments in ASHC and investments not falling within the definition of cash;

*(iii)* financing activities are those activities which result in changes in the size and composition of the capital structure of the Company. This includes equity, and debt not falling within the definition of cash.

**(l) Changes to accounting policies**

There have been no changes to accounting policies during the year.

**Note 3. Income for Australian Operations**

The Company receives support from the Government and shareholders for Australian Synchrotron costs.

	<b>2009</b>	<b>2008</b>
	\$	\$
Release of advance to purchase shares in ASHC	-	2,891,032
MoRST grants	871,561	639,934
Shareholder grants	97,577	-
	<b>969,138</b>	<b>3,530,966</b>
	<b>969,138</b>	<b>3,530,966</b>

The release of the liability for the advance of the grant to fund the purchase of shares was recognised as income in the 2008 financial year.

**Note 4. Other income**

	<b>2009</b>	<b>2008</b>
	\$	\$
Capability build grant	355,565	170,654
Funding from shareholders	-	-
Contribution from the ASCH of incurred travel costs	24,222	-
Interest	44,491	76,291
	<b>424,278</b>	<b>246,945</b>
	<b>424,278</b>	<b>246,945</b>

**Note 5. Australian Synchrotron Group costs**

As detailed in note 14 the Company makes an annual contribution to the ongoing operating costs of the Australian Synchrotron.

**Note 6. Other operating costs**

**(a) Remuneration of Auditor**

During the year the following fees were paid or payable for services provided by the OAG appointed auditor – John Meehan with assistance from PricewaterhouseCoopers.

	<b>2009</b>	<b>2008</b>
	<b>\$</b>	<b>\$</b>
Statutory audit services	7,862	7,757
Taxation compliance services	28,675	9,715
	<b>36,537</b>	<b>17,472</b>
	<b>36,537</b>	<b>17,472</b>

**(b) Foreign exchange gains / (losses)**

During the year the following exchange gains (losses) were made on transactions between New Zealand and Australia.

	<b>2009</b>	<b>2008</b>
	<b>\$</b>	<b>\$</b>
Foreign exchange gains / (losses)	<b>(71,736)</b>	<b>316,251</b>
	<b>(71,736)</b>	<b>316,251</b>

**(c) Support for Synchrotron Science**

During the year the following fees were paid or payable for services provided.

	<b>2009</b>	<b>2008</b>
	<b>\$</b>	<b>\$</b>
Travel costs	104,695	29,722
Meeting costs	8,335	5,547
Grants	104,039	16,049
	<b>217,069</b>	<b>51,318</b>
	<b>217,069</b>	<b>51,318</b>

**(d) Secretariat and other operating costs**

During the year the following fees were paid or payable for services provided.

	2009	2008
	\$	\$
Secretariat services from the Royal Society	103,516	180,445
Insurance	2,848	1,747
Legal	8,367	5,057
	114,731	187,249
	440,073	(60,212)

**Note 7. Income Tax**

	2009	2008
	\$	\$
<b>(a) Reconciliation of effective tax rate</b>		
<b>(Loss) / Profit before tax</b>	<b>(1,158,545)</b>	<b>3,407,534</b>
Income tax @ 30% (2008: 33%)	(347,564)	1,124,486
Non assessable income	-	(1,069,667)
Losses not recognised	347,564	-
Expenses not deductible for tax purposes	-	1,669
Prior period adjustment	-	(1,368)
<b>Tax expense</b>	<b>-</b>	<b>55,120</b>

**(b) Reconciliation of tax type**

Current tax	-	55,120
Deferred tax	-	-
<b>Total</b>	<b>-</b>	<b>55,120</b>

**Note 8. Cash and cash equivalents**

	2009	2009	2008	2008
	\$	Interest Rate	\$	Interest Rate
Cash	317,347	3.15%	47,560	8.00%
Foreign Currency - AUD	52,675	1.68%	1,111,891	6.34%
	<b>370,022</b>		<b>1,159,451</b>	

All the bank balances are held with the Bank of New Zealand.

**Note 9. Trade and other receivables**

	2009	2008
	\$	\$
Trade receivables	83,418	176,263
Sundry receivables	-	1,193,579
Prepayments	1,600	1,248
Withholding tax paid	16,010	-
Goods and Services Tax receivable	14,325	-
<b>Total trade and other receivables</b>	<b>115,353</b>	<b>1,371,090</b>

**Note 10. Investment in the ASHC**

	2009	2008
	\$	\$
Deposits on shares in ASHC	-	5,817,337
Investments in ASHC	5,713,750	-
Amortisation	(1,142,750)	-
<b>Net Investment in ASHC</b>	<b>4,571,000</b>	<b>5,817,337</b>

In the prior year the Company had made advance payments on the subscription of shares in the ASHC. In this financial year these deposits were converted to 5,000,000 ordinary fully paid shares in ASHC (with a nominal value of \$AUS1).

The investment in the ASHC is being amortised on a straight line bases over a period of five years as this is managements' best estimate if the impairment of this asset.



**Note 11. Trade and other payables**

	<b>2009</b>	<b>2008</b>
	<b>\$</b>	<b>\$</b>
Creditors	49,328	63,963
Accruals	45,256	26,445
Final payment for ASHC shares	-	1,894,418
Goods & Services Tax payable	-	18,158
Total trade and other payables	<u><b>94,584</b></u>	<u><b>2,002,984</b></u>

There are no payables to related parties in these balances.

**Note 12. Deferred Income**

Where revenue has been received and not yet earned, it has been classed as deferred income for the purposes of these accounts.

	<b>2009</b>	<b>2008</b>
	<b>\$</b>	<b>\$</b>
Government grants	57,000	81,205
Operating payments received in advance from related parties	-	188,150
	<u><b>57,000</b></u>	<u><b>269,355</b></u>

**Note 13. Share Capital**

	<b>2009</b>	<b>2008</b>
	<b>\$</b>	<b>\$</b>
The 11 shareholders of NZSG at 30 June are		
University of Auckland	509,217	509,217
University of Waikato	190,357	190,357
Massey University	428,317	428,317
Victoria University of Wellington	237,966	237,966
University of Canterbury	285,546	285,546
Lincoln University	28,557	28,557
Otago University	285,546	285,546
AgResearch Ltd	285,546	285,546
Institute of Geological and Nuclear Sciences Ltd	190,357	190,357
The New Zealand Institute for Plant and Food Research Ltd	190,357	190,357
Industrial Research Ltd	192,270	192,270
	<b>2,824,036</b>	<b>2,824,036</b>

	<b>2009</b>	<b>2008</b>
	<b># of shares held</b>	<b># of shares held</b>
The shares held at 30 June are:		
University of Auckland	436,319	436,319
University of Waikato	163,104	163,104
Massey University	367,001	367,001
Victoria University of Wellington	203,897	203,897
University of Canterbury	244,668	244,668
Lincoln University	24,467	24,467
Otago University	244,668	244,668
AgResearch Ltd	244,668	244,668
Institute of Geological and Nuclear Sciences Ltd	163,104	163,104
The New Zealand Institute for Plant and Food Research Ltd	163,104	163,104
Industrial Research Ltd	163,104	163,104
	<b>2,418,104</b>	<b>2,418,104</b>

The amount recognised in the balance sheet as paid in capital is the New Zealand dollar equivalent at the date of issuance.

## Note 14. Commitments

Since 1 January 2008 the Company has been contractually committed to provide ongoing operational funding of \$2.097m for the Australian Synchrotron project over a five year period. As part of the Participant's agreement entered into with the 11 shareholders these funds will be received directly from the shareholders when required to fulfil these obligations. The result is a net nil outflow of funds from the Company.

## Note 15. Contingent liabilities

There were no contingent liabilities at 30 June 2009. (2008: nil)

## Note 16. Financial Instruments

### Classification of financial assets by category

	Available for sale	Receivables & Loans
	\$	\$
<b>30 June 2009</b>		
Investment in ASHC	5,713,750	-
Trade & other receivables	-	115,353
<b>Total</b>	<b>5,713,750</b>	<b>115,353</b>
<b>30 June 2008</b>		
Deposit on shares in ASHC	-	5,817,337
Trade & other receivables	-	1,371,090
<b>Total</b>	<b>-</b>	<b>7,188,427</b>

### Classification of financial liabilities by category

	Measured at amortised cost
	\$
<b>30 June 2009</b>	
Trade & other payables	94,584
<b>Total</b>	<b>94,584</b>
<b>30 June 2008</b>	
Trade & other payables	2,002,984
<b>Total</b>	<b>2,002,984</b>

New Zealand Synchrotron Group Limited  
Notes to the Financial Statements  
for the year ended 30 June 2009

## Note 17. Related Parties

The Company has no significant transactions with related parties other than funding arrangements disclosed in note 14.

**Note 18. Reconciliation of (loss)/profit with cash flows from operating activities**

	<b>2009</b>	<b>2008</b>
	\$	\$
(Loss)/Profit after tax	(1,158,545)	3,352,414
<i>Add/(Less) non-cash items</i>		
Amortisation of Australian Synchrotron	1,142,750	-
Tax expense	-	55,120
Release of liability to purchase shares in ASHC	-	(2,891,032)
Non-Cash FX Gains/(Losses)	103,557	-
Add/(Less) movements in working capital		
Trade and other receivables - excluding investing activities	44,960	(720,140)
Trade and other payables - excluding investing activities	(342,112)	939,804
<b>Net Cash flow from operating activities</b>	<b>(209,390)</b>	<b>736,166</b>

**Note 19. Events occurring after balance date**

There are no significant events subsequent to balance date.