

NEW ZEALAND SYNCHROTRON GROUP LIMITED



ANNUAL REPORT 2008

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CHAIRMAN'S REPORT

The New Zealand Synchrotron Group Ltd (NZSG) has now completed its second year of operation. It has been an important period of development for the company in providing support for the New Zealand research community and ensuring that the country obtains value from the significant investment made via NZSG in the Australian Synchrotron.

The agreements to formalise the investment in the Australian Synchrotron were completed in October 2007 and the second instalment of capital was paid. 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. NZSG currently has a strong revenue base derived 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 by NZSG and the establishment of a New Zealand Synchrotron Support Programme to raise awareness in New Zealand of synchrotron science and to fund research, training and travel to synchrotron facilities in Australia and elsewhere.

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

- providing secretariat services to the Board,
- acting on the company's behalf with the Australian Synchrotron on shareholder matters and coordinating access arrangements for researchers,
- 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

Despite the limitations on the number of operational beamlines and number of shifts available once the facility was opened for general users in January 2008, there has been good uptake by the New Zealand science community. A group from Industrial Research Limited were the first general users to receive merit access time on the Powder Diffraction beamline in February. Our first preferred access users on the Infrared Spectroscopy beamline (who themselves were new to synchrotron experiments) was a group from Otago University, receiving time in April. In spite of technical difficulties, the group were extremely satisfied with the data they collected, which led to them applying for more time in the following cycle. It is particularly encouraging to see the number of students involved in experiments, and attending summer schools and other meetings.

The company had budgeted to operate with a very small surplus for the year, but the weakening of the New Zealand dollar during the year meant that the company experienced significant gains on foreign exchange fluctuations on funds held as Australian dollars for investment in the Australian Synchrotron. This generated a surplus before tax of \$167,102 resulting in a modest tax liability.

In addition, changes to the Income Tax Act in 2006 have meant that the company's investment in the Australian Synchrotron will be treated as a Foreign Investment Fund (FIF) and the company will be liable to pay income tax on either the value of the investment or a share of any surpluses the Australian Synchrotron Holding Company Pty Ltd (ASHCo) makes. The board is concerned about the potential risk of having to make significant tax payments and is therefore considering options to minimise the exposure.

Since the Australian Synchrotron Holding Company has signalled to all of its shareholders that it wishes to become a tax-exempt not-for-profit entity, it may well be desirable for NZSG to seek shareholder approval for a similar change to its own constitution.

Notwithstanding any of the above issues, the company will be in a strong position in the coming year to fulfil its objectives as both the IDF grant and the contract with MoRST continue until 30 June 2009.

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 Dr Don Smith in assisting the board and by Dr 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 Peter Metcalf) which has evaluated all requests for merit access and for funding support.

Finally, I would like to thank my fellow directors for their constructive input into a second successful year of operations.



GA Carnaby
Chair

BUSINESS REVIEW

Investment in the Australian Synchrotron

The investment in the Australian Synchrotron was formalised on 31 October 2007 with the signing of the Subscription Agreement between the company and the two synchrotron entities, the Australian Synchrotron Company (ASC) and the Australian Synchrotron Holding Company (ASHCo). As a consequence, NZSG became a member of the Australian Synchrotron Company and received 5 million part paid shares in the Australian Synchrotron Holding Company. Also at that time the company paid the second instalment of capital owing on the Australian Synchrotron Holding Company shares (A\$2 million) making each share paid to 70 cents in the dollar. Also, simultaneously with the signing of the Subscription Agreements with the other Foundation Investors, capital funds previously held in the beamline trust for beamline construction were released to The Australian Synchrotron Holding Company.

The final instalment of capital from NZSG for Australian Synchrotron Holding Company shares of A\$1.5 million is due to be paid on 31 October 2008.

The Subscription Agreement also provides for a contribution from New Zealand towards the operating costs of the Synchrotron. The first payment (A\$375,000) was made to the Australian Synchrotron Company on 28 February 2008. An annual payment of A\$750,000, adjusted for cost of living movements, is payable from February 2009 onwards.

The Board has appointed Dr Don Smith to be its representative on the Australian Synchrotron Company's Council of Members and Dr Bridget Ingham as the contact person for access arrangements and user liaison. Dr Carnaby was appointed by the Victorian State Government to the establishment Boards of the Australian Synchrotron Company and the Australian Synchrotron Holding Company, and has subsequently been confirmed as a Director by the Council of Members and shareholders. In any matter where it might be deemed that a potential conflict might arise from these appointments Dr Carnaby has vacated the Chair of NZSG.

Access Arrangements to the Australian Synchrotron

The first of the beamlines were successfully commissioned in mid 2007. New Zealand researchers from Massey University and The University of Auckland were invited to undertake some of the commissioning experiments on the protein crystallography beamline.

Since then, the Australian Synchrotron has made calls every four months for merit access to beamlines as they became available. These were made through the Australian Synchrotron Support Programme (ASRP) with no direct involvement from NZSG apart from promoting the opportunity to apply via our website.

Opportunities for preferred access for New Zealand researchers for those who did not obtain merit access began in January 2008. Researchers from the company's shareholders have been able to apply for time. Applications are made through NZSG and are evaluated by an Assessment Committee.

The Australian Synchrotron Company has indicated that from late 2008 onwards it will contribute to the travel costs for New Zealand researchers who obtain beamtime at the Australian Synchrotron. These funds will be administered through NZSG.

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, IRL

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 was developed and approved by shareholders and is published on the NZSG web site along with other information on accessing support.

The table below lists the New Zealand researchers who have gained beamline access from July 2007 to June 2008.

Researchers	Institution	Cycle	Beamline	Access
Dr Bridget Ingham	IRL	2008-1	Powder diffraction "Formation of nanoporous metallic materials, observed in situ"	Merit access 5 days
Prof Henrik Kjaergaard Dr Joseph Lane Benjamin Miller	University of Otago	2008-1	Infrared spectroscopy "Gas phase infrared spectroscopy of water dimer"	Preferred access 4 days
Dr Geoff Waterhouse Prof Jim Metson	University of Auckland	2008-1	Infrared spectroscopy "Mid and far infra-red spectroscopic studies of silver oxides, copper oxides, and silver-copper oxides"	Preferred access 4 days
Prof Ted Baker Assoc Prof Peter Metcalf Dr Chris Squire	University of Auckland	2008-2	Protein crystallography (via remote access) "X-ray crystallo-graphic studies of medically and biologically significant protein molecules"	Preferred access 2 days

Researchers	Institution	Cycle	Beamline	Access
Dr Mark Bowden Dr Martin Ryan	IRL	2008-2	Powder diffraction "Initiation of hydrogen release from ammonia borane"	Preferred access 2 days total (concurrently with the group below)
Fern Kelly Dr Bridget Ingham	Victoria University of Wellington IRL	2008-2	Powder diffraction "Characterisation of Ag nanoparticles attached to natural and synthetic fibres"	Preferred access 2 days total (concurrently with the group above)
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

Support for Synchrotron Scientists

The company has been contracted by Massey University to develop and run a New Zealand Synchrotron Support Program (NZSSP) with funds originating from the Tertiary Education Commission. This successful application was prepared by Prof. Geoff Jameson. The objectives of the program have been:

- To establish the New Zealand Synchrotron Support Programme with the goal of optimising synchrotron usage among New Zealand scientists, and ensure ongoing sustainability
- 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
- 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 continued to receive funds 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 has been 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 2007 and funding researchers to travel to and experiment at various synchrotron facilities around the world as detailed below.

The MoRST funding has been earmarked for supporting new researchers to attend synchrotron science summer schools. The first of these are participating in summer schools in August and September 2008.

Some of the funds received for these activities were not used during the year because full access to all the beamlines at the Australian Synchrotron was not available. With the agreement of the funders, these funds have been carried over for use in the forthcoming year.

The New Zealand Synchrotron Users Workshop was held in Palmerston North in April 2008. It was attended by 49 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 throughout the year on specialist topics to help raise awareness of the opportunities provided from the investment in the Australian Synchrotron.

The company has provided financial support for two people to attend a Users Workshop in Melbourne in December 2007. The two scientists were:

- Dr B Ingham, IRL
- Dr Nat Janke-Gilman, Quest Reliability

Because the Australian Synchrotron is still in its commissioning phase, some beamlines are yet to become available. However, the company has provided funding support for 6 individuals to undertake experiments in Melbourne and to a further 4 researchers to travel to other facilities to undertake work that could not be performed at the Australian Synchrotron at that time. Details of the funding provided by NZSG is given below.

Date	Person	Activity	Funding
Feb 2008	Dr Bridget Ingham Scientist Industrial Research Ltd Dr Christian Dotzler Postdoctoral Fellow Industrial Research Ltd	Undertaking experiments on the Powder Diffraction beamline at the Australian Synchrotron "Formation of nanoporous metallic materials, observed in situ"	\$3,132.63
Feb 2008	Andrew Preston Postgraduate student Victoria University of Wellington	Undertaking experiments on the Soft X-ray Absorption and Emission beamline at the MAX-lab (Lund, Sweden) "Studying the electronic structure of novel nitride thin films"	\$4,000.00

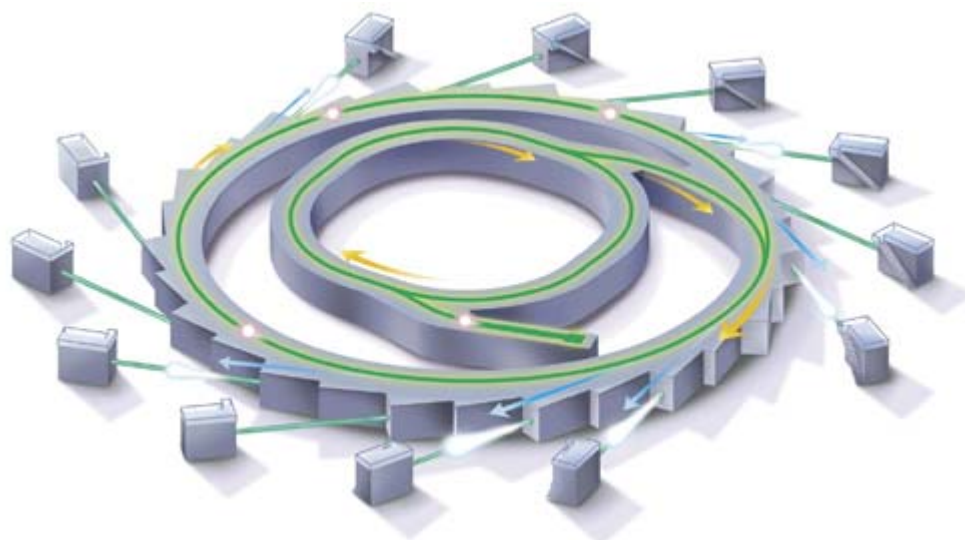
Date	Person	Activity	Funding
April 2008	Professor Henrik Kjaergaard University of Otago Joseph Lane Postdoctoral Fellow University of Otago Benjamin Miller Postgraduate Student University of Otago	Undertaking experiments on the Infra-Red beamline at the Australian Synchrotron “Gas phase infrared spectroscopy of water dimmer”	\$4,108.88
April 2008	Associate Professor Peter Metcalf University of Auckland	Undertaking experiments on the micro-beam protein crystallography beamline at the Swiss Light Source. “Crystallographic studies of insect virus micro-crystals”	\$4,094.00
April 2008	Dr Geoff Waterhouse University of Auckland	Undertaking experiments on the Infra-Red beamline at the Australian Synchrotron “Mid and far infrared spectroscopic studies of silver oxides, copper oxides and silver-copper oxides”	\$1,843.97
June 2008	Dr Aaron Marshall Postdoctoral Fellow Massey University Professor Richard Haverkamp Massey University	Undertaking experiments on the XAS beamline at the Photon Factory (Japan) “Studying silver accumulation in hydroponically grown <i>Brassica juncea</i> ”	\$5,777.78

There will be considerably greater opportunities to provide financial support for synchrotron science in the coming year as the company still has IDF and MoRST funds to support synchrotron science and the Australian Synchrotron has agreed to provide travel funding for New Zealand researchers who gain access to the Synchrotron.

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 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 also came online in early 2008. The beam line features two endstations: an FTIR spectrometer and an IR microscope.
- Powder diffraction 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 beamline was delayed during the commissioning stages and the arrival and installation of the detector endstation from the ASRP beam line in Taiwan. General user proposals will be accepted in the September-December 2008 cycle. This beam line operates at low x-ray energies and is most useful for surface studies.
- The X-ray absorption spectroscopy (EXAFS) beam line has also been delayed during the commissioning process. It is hoped that it will be able to accept general user proposals 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 is currently being commissioned and will come online in 2009.
- A second protein crystallography and small-molecule crystallography beamline is currently being commissioned, to complement the existing protein crystallography beam line. This beam line will be able to measure micron-sized crystals and other weakly-scattering or hard to crystallise systems.
- The microspectroscopy beam line is under construction. This 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 also currently under construction. This involves a 150 m long enclosure being built which extends well outside the synchrotron building.

Other proposed beam lines currently being reviewed and prioritized by the Australian Synchrotron Company, prior to consultation with the Council of Members include microdiffraction, vacuum-ultraviolet (VUV) spectroscopy, lithography, and circular dichroism. These take advantage of the highly polarised nature and collimation of synchrotron light.

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 the initial suite of nine agreed 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 seek to favour new users in obtaining beam time.



Case Study Example

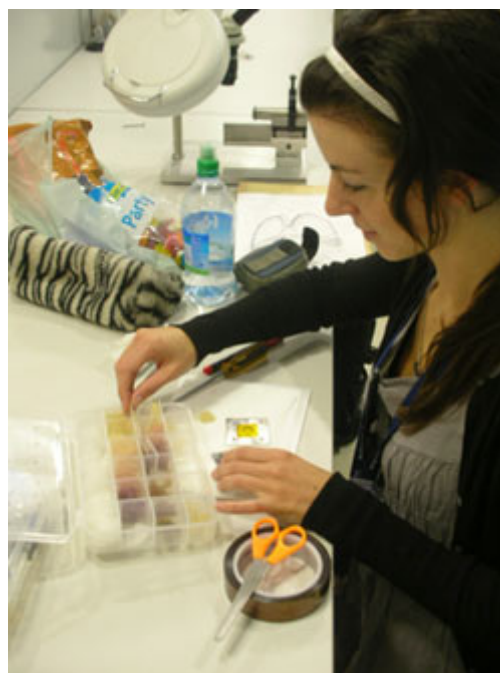
(as featured in the Australian Synchrotron newsletter 'Lightspeed', August 2008)

Fern Kelly, a PhD student from Victoria University of Wellington (supervisor Prof Jim Johnston), is studying merino wool and other fibres coated with silver nanoparticles. The optical properties of different sized nanoparticles result in different colours, which are an efficient means of dyeing the merino fibres as the colour does not fade over time and the process is less polluting than conventional dyeing methods. In addition, silver nanoparticles have antimicrobial properties.

Fern applied for Preferred Access beamtime in the 2008-2 cycle at the Australian Synchrotron, to use the Powder Diffraction beamline to characterise the silver phases present in the nanoparticles. Some preliminary synchrotron diffraction experiments (the silver nanoparticles are too weakly scattering to be observed with a laboratory instrument) indicated the presence of silver chloride (AgCl) in addition to silver (Ag), which was an unexpected result and led to Fern applying for more beamtime to investigate this further.

In her experiments, Fern was able to identify the relative fraction of Ag and AgCl present in the samples, as a function of the age of the sample and the fibre pre-treatment conditions. The different pre-treatment procedures result in the observation of different phases and different concentrations of silver, with the highest concentrations (and most intense colour) observed after an HCl pre-treatment. When the HCl-treated samples are treated with the Ag solution, AgCl forms first and then photo-oxidises over time to form the Ag nanoparticles.

"It was excellent to obtain results to confirm the phases of silver present," Fern said. "While further questions still remain about the bonding between the silver nanoparticles and the wool, and the mechanism of formation, I believe that synchrotron radiation characterisation methods are the key to determining the answers. I was very impressed with the Australian Synchrotron, and I look forward to more crazy hours at the facility."



Fern Kelly preparing coloured merino wool samples to measure using x-ray diffraction at the Australian Synchrotron.

Summary of New Zealand Synchrotron Support Programme Activity (June 2007 – June 2008)

Training

Attendees at conferences, workshops, summer schools etc.	9
Including: post docs	2
students	4

Australian Synchrotron access

Number of merit access proposals accepted	1	
Number of preferred access proposals accepted	3	
	Total	4

Funding requests

Travel requests to the Australian Synchrotron	6
Including: post docs	2
students	1
Travel requests to other synchrotron facilities	3
Including: post docs	1
students	1
Synchrotron projects accepted	2

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 2008 were:

Dr Garth Carnaby, Chair *(from 13 September 2006)*

Dr Desmond Darby, GNS Science *(from 13 September 2006)*

Professor Geoffrey Jameson, Massey University *(from 13 September 2006)*

Professor James Metson, The University of Auckland *(from 16 May 2007)*

Professor Ian Shaw, University of Canterbury *(from 13 September 2006)*

Interests Register

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

Director	Organisation/Entity	Nature of Interest
Dr GA Carnaby		
Shares Held	GA Carnaby & Associates Ltd	Controlling majority
Beneficiary of Trusts	Carnaby Trust	Trustee and discretionary beneficiary
	National Provident Fund	Annuity/Defined benefit
Offices Held	Institute of Environmental Science and Research Ltd	Deputy Chair
	Royal Society of New Zealand	Vice President, Business Development
	Canterbury Development Corporation	Chair
	Canterbury Economic Development Trustee Ltd	Chair
	Australian Synchrotron Co Ltd Australian Synchrotron Holding Co Pty Ltd	Director Director
Other Interests	Marsden Fund Council	Chairman
	Lincoln University	Entrepreneur in Residence
Dr D Darby		
Shares Held	Vector Ltd	Minority shareholder
	MEM Music Ltd	Majority shareholder
Offices Held	MEM Music Ltd	Director
	GNS Science	Senior manager
Prof GB Jameson		
Shares Held	Tower Ltd	Minority shareholder
Beneficiary of Trusts	Estate of MEB Jameson	Discretionary beneficiary
Offices Held	Massey University	Employee

Director	Organisation/Entity	Nature of Interest
Prof JB Metson		
Shares Held	Vector Energy Pacific Lithium	Minority shareholder Minority shareholder
Offices Held	University of Auckland	Employee
Other Interests	RIAG	Chair
Prof IC Shaw		
Offices Held	University of Canterbury	Pro Vice-Chancellor
Other Interests	Sandoz GmbH, Austria	Consultant

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 2008 support was provided to staff from The University of Auckland and Massey University. Dr Darby has assumed the chair in all decisions in which Dr Carnaby might be deemed conflicted due to his other roles at the Royal Society of New Zealand, the Australian Synchrotron Company and the Australian Synchrotron Holding Company.

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	5	-
Professor James Metson	6	6	-
Professor Ian Shaw	6	4	-

Donations

The company did not make any donations during the period from establishment up to 30 June 2008.

**New Zealand Synchrotron Group
Limited
Financial statements
for the year ended 30 June 2008**

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**New Zealand Synchrotron Group Limited
Board Report
for the year ended 30 June 2008**

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 2008.

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

The Board of NZSG has authorised these financial statements presented on pages 6 to 20 for issue on 3 November 2008.

For and on behalf of the Board



.....
Garth Carnaby
Chairperson
3 November 2008



.....
Desmond Darby
Director



PricewaterhouseCoopers
113-119 The Terrace
P O Box 243
Wellington 6140
New Zealand
Telephone +64 4 462 7000
Facsimile +64 4 462 7001
www.pwc.com/nz

Auditors' report

To the readers of the New Zealand Synchrotron Group Limited's Financial Statements for the year ended 30 June 2008

The Auditor-General is the auditor of the New Zealand Synchrotron Group Limited (the 'Company'). The Auditor-General has appointed me, John Meehan, 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 2008.

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 2008; and
 - the results of its operations for the year ended on that date.
- Based on our examination the Company kept proper accounting records.

The audit was completed on 3 November 2008 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 2008. They must also give a true and fair view of the results of operations 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.



John Meehan
On behalf of the Auditor-General
Wellington, New Zealand



PricewaterhouseCoopers

New Zealand Synchrotron Group Limited
Income Statement
for the year ended 30 June 2008

	Note	30 June 2008 Actual \$	30 June 2008 Budget \$	30 June 2007 Actual \$
Grant Income				
Grant income MoRST	16	3,069,977	2,997,231	-
Operating Income				
MoRST - Australian Synchrotron operating costs		430,589	433,779	-
MoRST- NZ synchrotron operating costs		30,400	88,889	88,414
IDF Grant – Massey University		170,654	440,556	-
Shareholder contribution to NZSG operating costs		-	13,000	-
Interest income		76,291	22,313	57,766
Foreign Exchange				
Foreign exchange gains / (losses)		316,251	-	(152,680)
Total Income		4,094,162	3,995,768	(6,500)
Expenditure				
Professional services	13	17,472	18,000	7,717
Support for synchrotron science	14	51,318	320,556	16,396
Secretariat and other operating costs	15	187,249	220,000	79,790
Australian Synchrotron Group costs		430,589	433,779	-
Operating Expenditure		686,628	992,335	103,903
Net surplus / (loss) before taxes		3,407,534	3,003,433	(110,403)
Income tax expense / (gain)	20	55,120	2,047	2,711
Net surplus / (loss) after taxes		3,352,414	3,001,386	(113,114)

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



.....
Garth Carnaby
Chair Person
3 November 2008



.....
Desmond Darby
Director

New Zealand Synchrotron Group Limited
Statement of Changes in Equity
for the year ended 30 June 2008

	Note	30 June 2008 Actual \$	30 June 2008 Budget \$	30 June 2007 \$
Equity at the beginning of the year		2,518,652	2,518,652	-
Capital paid in by shareholders		192,270	-	2,631,766
Net surplus for the year		3,352,414	3,001,386	(113,114)
Equity at the end of the year		6,063,336	5,520,038	2,518,652

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

.....
Garth Carnaby
Chair Person
3 November 2008

.....
Desmond Darby
Director

New Zealand Synchrotron Group Limited
Balance Sheet
for the year ended 30 June 2008

	Note	30 June 2008	30 June 2007
<i>Current assets</i>		\$	\$
Cash and cash equivalents	4	1,159,451	1,813,918
Trade and other receivables	5	1,371,090	1,977,802
Current tax receivable		-	17,672
Total current assets		2,530,541	3,809,392
<i>Non-current assets</i>			
Investment in Australian Synchrotron Holding Company	6	5,817,337	1,650,346
Total non-current assets		5,817,337	1,650,346
TOTAL ASSETS		8,347,878	5,459,738
<i>Current liabilities</i>			
Trade and other payables	7	2,002,984	38,913
Current tax liability		12,203	-
Deferred income	8	269,355	11,142
Crown advance	9	-	2,891,032
Total current liabilities		2,284,542	2,941,087
TOTAL LIABILITIES		2,284,542	2,941,087
Net assets		6,063,336	2,518,652
<i>Equity</i>			
Share capital	10	2,824,036	2,631,766
Retained earnings		3,239,300	(113,114)
TOTAL EQUITY		6,063,336	2,518,652

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
Chairperson
3 November 2008



.....
Desmond Darby
Director

Note 1. General information

New Zealand Synchrotron Group Limited (“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 by 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. Grant Income MoRST, as noted in the Income Statement on page 6, is funding received from the Crown which is specified in the Crown Funding Agreement to be used as a contribution to the subscription in ASHC. The Company’s 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) 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 employee and total income is below \$20 million. NZSG has taken advantage of all differential reporting concessions available to it except for provisions of NZIAS 18 Revenue paragraph NZ6.1 and NZ IAS 12 Income Taxes 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.

(b) Application of NZ IFRS 1 First-time Adoption of New Zealand Equivalents to International Financial Reporting Standards (NZ IFRS 1)

Until 30 June 2007, financial statements of the Company had been prepared in accordance with previous New Zealand Financial Reporting Standards (NZ FRS). NZ FRS differ in certain respects from International Financial Reporting Standards (NZ IFRS). When preparing the Company financial statements for the year ended 30 June 2008, management has amended certain accounting and valuation methods applied in the previous NZ FRS financial statements to comply with NZ IFRS. The comparative figures for the year ended 30 June 2007 were restated to reflect these adjustments.

Reconciliations and descriptions of the effect of the transition from previous NZ FRS to NZ IFRS on the Company’s equity and its net income are provided in Note 21.

(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

Government grants 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 liabilities 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.

(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, and bank overdrafts. Bank overdrafts are shown within borrowings in current liabilities on the balance sheet.

(h) Trade receivables

Trade receivables are recognised initially at fair value and subsequently measured at amortised cost, less

provision for doubtful debts.

New Zealand Synchrotron Group Limited
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for the year ended 30 June 2008

Collectability 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

Investments in Australian Synchrotron Company Limited are classified as assets that are available for sale. As there is no active markets for these investments, these are stated at the 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 ASHC investment on a straight line basis over the remaining useful life of the underlying asset (investment), to be determined once it is commissioned.

(i) 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.

Note 3. Transition to New Zealand Equivalents to International Financial Reporting Standards NZ IFRS

Application of NZ IFRS 1 *First-time Adoption of New Zealand Equivalents to International Financial Reporting Standards (NZ IFRS 1)*

The Company's financial statements for the year ended 30 June 2008 are the first annual financial statements that comply with NZ IFRS and NZ IFRS 1 has been applied in their preparation. These financial statements have been prepared as described in note 2(a).

The Company's transition date is 13 September 2006, which is the date the company was established. The Company prepared their opening NZ IFRS balance sheet at that date. The reporting date of these financial statements is 30 June 2008. The Company's NZ IFRS adoption date is 1 July 2007.

In preparing these financial statements in accordance with NZ IFRS 1, the Company has applied the mandatory exceptions from full retrospective application of NZ IFRS. No optional exemptions from full retrospective application of NZ IFRS have been applied as they were not considered relevant.

New Zealand Synchrotron Group Limited
Notes to the Financial Statements
for the year ended 30 June 2008

Estimates under NZ IFRS at 30 June 2007 are required to be consistent with estimates made for the same date under previous NZ FRS, unless there is evidence that those estimates were in error. No adjustments to previous estimates have been made by management.

The reconciliations in note 21 provide a quantification of the effect of the transition to NZ IFRS. The two reconciliations provide details of the impact of the transition on:

- net surplus for the year ended 30 June 2007
- equity at 30 June 2007

Note 4. Cash and cash equivalents

	30 June 2008	30 June 2008	30 June 2007	30 June 2007
	\$	Interest Rate	\$	Interest Rate
Cash	47,560	8.00%	33,284	7.90%
Foreign Currency - AUD	1,111,891	6.34%	1,780,634	4.25%
	<u>1,159,451</u>		<u>1,813,918</u>	

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

Note 5. Trade and other receivables

	30 June 2008	30 June 2007
	\$	\$
Trade receivables	1,193,579	1,975,234
Sundry receivables	176,263	2,568
Prepayments	1,248	-
Total trade and other receivables	<u>1,371,090</u>	<u>1,977,802</u>

Note 6. Investments

	30 June 2008	30 June 2007
	\$	\$
Deposit on shares in ASHC	5,817,337	1,650,346

The investment represents 5,000,000 ordinary shares in ASHC (with a nominal value of \$AUS1) 70c of the subscription price has been paid and the final payment of \$AUS 1,500,000 is due on 31 October 2008.

Note 7. Trade and other payables

	30 June 2008	30 June 2007
	\$	\$
Creditors	63,963	-
Accruals	26,445	38,913
Final payment for ASHC shares	1,894,418	-
Goods & Services Tax payable	18,158	-
Total trade and other payables	2,002,984	38,913

There are no payables to related parties in these balances.

Note 8. Deferred Income

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

	30 June 2008	30 June 2007
	\$	\$
Crown	81,205	11,142
Operating payments received in advance from related parties	188,150	-
	269,355	11,142

Note 9. Current liabilities

	30 June 2008	30 June 2007
	\$	\$
Advance of grant to purchase shares in ASHC	-	2,891,032

As part of a funding agreement with the Crown, the Company received partial funding for its investment in the Australian Synchrotron Holding Company from the Ministry of Research Science and Technology (MoRST). The funding was provided on the condition that it is used for the purpose of investing in the Australian Synchrotron Holding Company. These advances were held as a liability in the Balance Sheet as at 30 June 2007, until the purchase of the ASHC shares was completed in the current financial year.

Note 10. Share capital

	30 June 2008	30 June 2007
	\$	\$
The 11 shareholders of NZSG at 30 June are		
The 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
NZ Institute for Crop and Food Research Ltd	190,357	190,357
Industrial Research Ltd	192,270	
	<hr/>	
	2,824,036	2,631,766
	<hr/> <hr/>	<hr/> <hr/>
	30 June 2008	30 June 2007
	# of shares held	# of shares held
The shares held at 30 June are		
The 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
NZ Institute for Crop and Food Research Ltd	163,104	163,104
Industrial Research Ltd	163,104	-
	<hr/>	<hr/>
	2,418,104	2,255,000
	<hr/> <hr/>	<hr/> <hr/>

Shares were issued to all shareholders on 13 September 2006 (except Industrial Research Ltd), but were only partly paid. The amount recognised in the balance sheet as paid in capital is the New Zealand dollar equivalent at the date of issuance.

Note 11. Commitments

From 1 January 2008 the Company is contractually committed to provide ongoing operational funding of A\$2.097m for the Australian Synchrotron project for 5 years. 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 12. Contingent liabilities

There were no contingent liabilities at either 30 June 2008 or 30 June 2007.

Note 13. Remuneration of Auditor

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

	30 June 2008	30 June 2007
	\$	\$
Statutory audit services	7,757	7,717
Taxation advice	9,715	-
	17,472	7,717

Note 14. Support for Synchrotron Science

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

	30 June 2008	30 June 2007
	\$	\$
Travel costs	29,722	16,396
Meeting costs	5,547	-
Grants	16,049	-
	51,318	16,396

Note 15. Secretariat and other operating costs

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

	30 June 2008	30 June 2007
	\$	\$
Consultants	-	4,100
Secretariat services	180,445	68,625
Insurance	1,747	2,995
Legal	5,057	4,070
	187,249	79,790
	187,249	79,790

Note 16. Grant Income (from MoRST)

	30 June 2008	30 June 2007
	\$	\$
Grant to fund the acquisition of shares in ASHC	2,891,032	-
Grant income in respect to current period operations	178,945	-
	3,069,977	-
	3,069,977	-

The release of the liabilities for the advance of the grant to fund the purchase of shares has been recognised as income in the 2008 financial year.

Note 17. Financial Instruments

Assets as per balance sheet schedule

	Available for sale	Receivables & Loans
	\$	\$
30 June 2008		
Investment in ASHC	5,817,337	
Trade & other receivables	-	1,371,090
Total	5,817,337	1,371,090
30 June 2007		
Investment in ASHC	1,650,346	1,977,802
Total	1,650,346	1,977,802

Liabilities as per balance sheet schedule

	Measured at amortised cost
	\$
30 June 2008	
Trade & other payables	2,002,984
Total	2,002,984
30 June 2007	
Trade & Other Payables	38,913
Crown advance	2,891,032
Total	2,929,945

Note 18. Related parties

The Company has no significant transactions with related parties other than funding arrangements disclosed in note 10.

Note 19. Events occurring after balance date

The Company paid the remaining A\$0.30 per share payable on 31 October 2008. On 24 October the shareholders of ASHC and the members of the Australian Synchrotron Company approved changes to the constitutions of each company to allow them to have charitable company status. The changes include preventing any distributions by these companies to shareholders or members, including the payment of dividends and the distribution of proceeds if the companies are wound up.

Note 20. Income tax

	30 June 2008	30 June 2007
(a) Reconciliation of effective tax rate	\$	\$
Profit before tax	3,407,534	(110,403)
Income tax @ 33%	1,124,486	(36,433)
Non assessable income	(1,069,667)	39,144
Expenses not deductible for tax purposes	1,669	-
Prior period adjustment	(1,368)	-
Tax expense	55,120	2,711
(b) Reconciliation of tax type		
Current tax	55,120	2,711
Deferred tax	-	-

The deferred tax balance solely relates to the currency movements in the uncalled share capital.

Note 21. Explanation of the transition of the New Zealand Equivalents to IFRS

(a) Reconciliation of the balance sheet at the end of the last financial reporting period 30 June 2007

	Previous NZ FRS	Effective of transition to NZ IFRS	NZ IFRS
	\$	\$	\$
<i>Current assets</i>			
Cash and cash equivalents	1,813,918		1,813,918
Trade and other receivables	1,977,802	-	1,977,802
Current tax receivable	17,672	-	17,672
Total current assets	3,809,392		3,809,392
<i>Non-current assets</i>			
Investment in Australian Synchrotron Holding Company	1,650,346	-	1,650,346
Total non-current assets	1,650,346	-	1,650,346
TOTAL ASSETS	5,459,738	-	5,459,738
<i>Current liabilities</i>			
Trade and other payables	38,913	-	38,913
Income in advance	11,142	-	11,142
Crown advance	2,891,032	-	2,891,032
Total current liabilities	2,941,087	-	2,941,087
TOTAL LIABILITIES	2,941,087	-	2,941,087
Net assets	2,518,652	-	2,518,652
<i>Equity</i>			
Share capital	2,513,146	118,618 A	2,631,766
Retained earnings	5,506	(118,618)	(113,114)
TOTAL EQUITY	2,518,652	-	2,518,652

**Note 21. Explanation of the transition of the New Zealand Equivalents to IFRS
(continued)**

(b) Reconciliation of surplus at the end of the last financial reporting period 30 June 2007

	Previous NZ FRS	Effective of Transition to NZ IFRS	NZ IFRS
	\$	\$	\$
Grant Income			
Grant income MoRST	-	-	-
Operating Income			
MoRST - Australia Synchrotron Operating	-	-	-
MoRST - NZ Synchrotron Operating	88,414	-	88,414
IDF Grant – Massey University	-	-	-
Interest	57,766	-	57,766
Foreign Exchange			
Foreign exchange gains / (losses)	(34,062)	(118,618) A	(152,680)
Total Income	112,118	(118,618)	(6,500)
Expenditure			
Professional services	7,717	-	7,717
Support for synchrotron science	16,396	-	16,396
Secretariat and other operating costs	79,790	-	79,790
Operating Expenditure	103,903	-	103,903
Net surplus / (loss) before taxes	8,215	(118,618)	(110,403)
Income tax (Expense) / Credit	2,711		2,711
Net surplus / (loss) after taxes	5,504	(118,618)	(113,198)

- A) The Company has recognised its capital taking into account exchange rate gains / (losses) on uncalled share capital. As a result of the volatile NZD / AUD exchange rate the company has incurred a foreign exchange loss.