

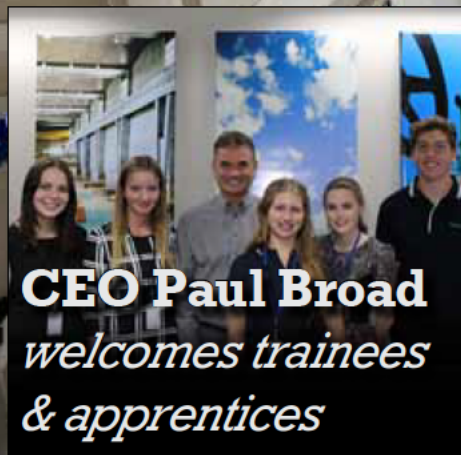
March 2014

snowyhydro

NEWS

Snowy Hydro in 2014: Maintenance, innovation & achievement...

Also in this edition:



ISSUE 24

Snowy Hydro in 2014- Maintenance, innovation and achievement...



CEO, Paul Broad, has been spending a lot of time in the area getting to know the business, its people, and the Snowy Scheme in detail. Paul talks about his time around the assets...

As CEO, I am lucky enough to get to experience the Snowy Mountains Scheme first hand. Every time I am in the Snowy Mountains I take the opportunity to experience the Scheme through the eyes of our dedicated teams who maintain and upgrade it.

Last month, Chief Operating Officer Ken Lister and the Jindabyne production team took me through Guthega Power Station, which is where the Snowy Scheme began. Guthega was not only the first power station to be built, it was the test to see if construction of the Scheme in its entirety would go ahead. Being the first also means it's the oldest and we are continuing to invest in a program of maintenance to ensure this plant remains in top condition.

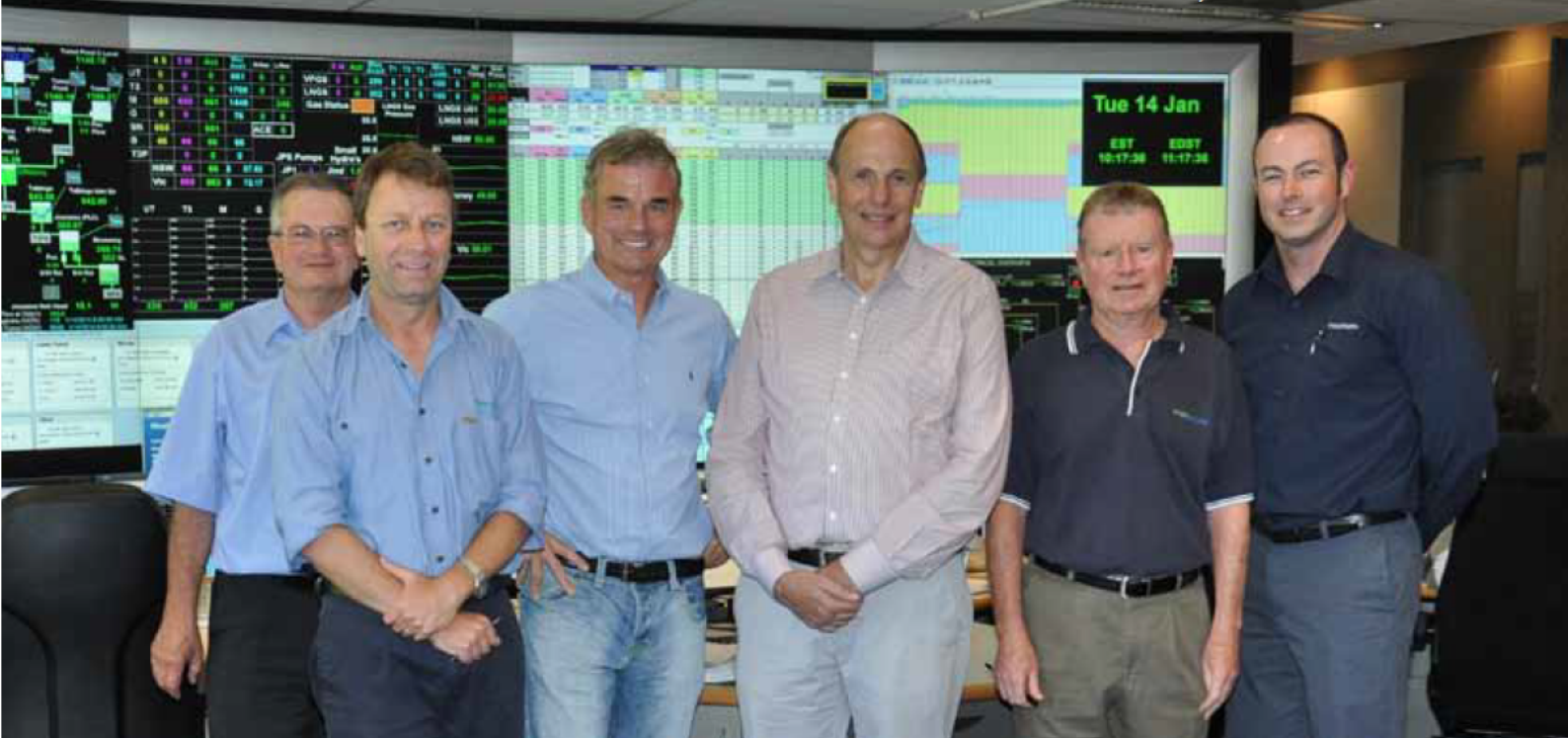
As you know Snowy Hydro does not own the water in the Snowy Scheme, but our ability to collect and store water is a key part of our success. Spending time at Island Bend Dam, the point at which water is transferred from the east to the west of the Great Dividing Range, and Burrungubugge Intake, a major aqueduct which collects and diverts water into the Snowy-Eucumbene Tunnel, has been a highlight. Aqueducts are critical to maximising our inflows and seeing these assets first hand reinforced the importance of those assets to our business.

Also with regard to water, Snowy Hydro's scientists have been working hard researching historical data to predict short and long term inflow levels. Our expectation is that it is going to remain dry in the

short to medium term. This means water storage management will be a significant focus at Snowy Hydro in 2014 and 2015. I encourage you all to read our annual Water Report for all the facts about water and Snowy Hydro.

In January I invited Grant King, CEO of Origin Energy, to join me and spend two days around the Snowy Scheme. We visited the Jindabyne Pumping Station and Murray 1 Power Station, Tumut 1 underground Power Station and Tumut 3 Power Station. Origin Energy is Snowy Hydro's biggest customer and I was keen for Grant to experience the Snowy Scheme first hand and see the quality of our people, plant and maintenance. I must say it was a very proud two days for me showing someone of Grant's experience and calibre around our assets.

Maintenance of the plant across the Scheme is central to our philosophy and we are taking the opportunity to improve maintenance even further. The Scheme Modernisation program is also continuing in smarter ways. We are better utilising the information we get from our plant to make decisions about maintenance and overhaul requirements. The goal remains, as always, to maintain and improve our plant so it is more reliable than ever before. Improved plant reliability increases our ability to back our contracts. It's this performance that enables us to compete successfully in the National Electricity Market and keep valuable customers like Origin Energy.



While I try to spend as much time as I can in the Snowy Mountains, I also split my time between Sydney and Melbourne. Now is a very exciting time for Melbourne-based Red Energy. Red has recently commenced a campaign to enter the NSW retail energy market. Highly successful in the Victorian market, Red Energy recently came out on top in Roy Morgan's independent research Customer Satisfaction Awards Australia, December 2013 for Electricity Providers. This is an outstanding achievement in the energy industry and well deserved by Red Energy.

In February, you may have received a visit from a member of the Red Energy sales team, who were promoting Red Energy in the Snowy Mountains. If you are interested in becoming a Red Energy customer I encourage you to contact a member of the team on 131 806. With customers who are more satisfied than those with the Victorian competition, why wouldn't you want to? It's a great way to also show your support to Snowy Hydro.

How can you get a copy of Snowy Hydro's Water Report?

Go to www.snowyhydro.com.au to download a copy; or

Collect a copy from:

- the Snowy Hydro Discovery Centre, Cooma;
- Murray 1 Visitors Centre near Khancoban;
- Cabramurra General Store & Coffee Shop;
- your nearest lake side operator; or
- one of the regional visitors centres.


To go on Snowy Hydro's Water Report mailing list please email you postal details to:

✉ communityfeedback@snowyhydro.com.au

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Standard rain gauge and high resolution snow gauge. The wind fence around the snow gauge improves its performance in windy conditions which are common in the mountains. It is based on the World Meteorological Organisation recommended design, which has been modified by Snowy Hydro for use in the Snowy Mountains.



Understanding our weather and climate



Did you know that Snowy Hydro undertakes research to improve weather and climate knowledge around the Snowy Mountains region? Senior Atmospheric Scientist, **Andrew Peace**, explains more...

Over the years we've kept you up to date with our internationally renowned Cloud Seeding Program, but aside from the obvious benefit of more snow, you may not realise that there have been many other benefits from the scientific research.

Take, for example, the high-resolution network of weather stations installed in and around the Snowy Water catchment, including a number of specialist instruments that measure snow more accurately than the standard rain gauge. The knowledge of Snowy Hydro's scientists who run the cloud seeding operations, along with the data from this world-class instrument network, is now being put to use in other areas.

Endorsed by the Bureau of Meteorology, Snowy Hydro's team of scientists are pleased to be the Australian representatives in an international study with the World Meteorological Organisation into methods to improve accuracy of snowfall

measurements, a notoriously difficult thing to do. Accurate measurements of both rain and snow are essential for optimal water resource management and forecasting, and this is important recognition of our personnel as well as our instrument and data quality.

Snowy Hydro is also collaborating with the Bureau of Meteorology, CSIRO, Monash University, Hydro Tasmania and VIC Dept. of Environment & Primary Industries, to improve the weather forecast models for southeast Australia. The project will improve cloud processes in the weather models used by forecasters. The models were originally created and fine-tuned to work with the dirtier air in the northern hemisphere, which is a result of both a number of deserts north of the equator and human produced pollution. However, air off the Southern Ocean is very clean, so there is a different balance between atmospheric processes which are not well-represented in the current models.

Researchers are using cutting-edge technology to develop a record of historical precipitation...

Our data is being used to improve and verify the precipitation produced in the models, which will directly improve water resource management over this region. It will also improve the Bureau of Meteorology's public weather forecasts throughout southern Australia. Most of our weather stations are located at very remote sites and regularly have to work in difficult environmental conditions. Many of them are fitted with radio communication equipment. Improved access to high-resolution real-time meteorological information is invaluable to Snowy Hydro for inflow and water management purposes, and therefore stakeholders downstream.

In another exciting research venture, Snowy Hydro is working with the University of Queensland to reconstruct a long-term inflow record over the Snowy Mountains, giving us a better idea of future inflow scenarios.

The project, which started in 2012 and is due to finish in 2016, builds on earlier collaborative work. You may remember us reporting at the end of 2011 the results from a study investigating the causes of extreme drought. Researchers took core samples from swamps, and by using special geo-chemical techniques and radioisotope dating methods to analyse dust deposits within the core, were able to reconstruct a drought history for the region for the past 6,500 years.

The current project – a first for southeast Australia – has been building on this information. A pilot study found that different isotope (or chemical) signatures are associated with different weather systems, so if particular weather systems dominate over a period of time due to the climate conditions at the time this isotopic 'fingerprint' can be preserved in the snow, ground water and cave systems.

Stalagmites have long been used as a valuable source of long term information as they preserve the isotopic record for thousands of years. For example, one sample, which was sourced from local caves last year under a scientific research licence, has been dated at over 6,000 years old.

Researchers are using cutting-edge technology to develop a record of historical precipitation from these stalagmites which will be validated against historical precipitation records and results from the earlier studies. This will identify the state of the climate over a period of thousands of years at a high resolution to better understand the effect of climate drivers on Scheme hydrology.

Stay tuned for more updates on this and our other scientific research projects.



Snowy Hydro's Atmospheric Scientist, Dr Johanna Speirs, with University of Queensland's Associate Professor, Dr Hamish McGowan, collecting water samples at Club Lake.



Dry, hot conditions and trying times around the lakes...



Over the summer we have experienced low inflows, hot conditions and declining lake levels. Manager, Water, Environment and Lands, **Andrew Nolan**, gives us the latest...

We all know that the 2013/14 summer has been a hot one around the Snowy Mountains and right around the country for that matter. As a result, we have seen very low inflows right across the Snowy Scheme in all the major rivers. In fact, this was the driest summer period since the peak of the decade long drought in 2006/07.

Our inflows across the Scheme over summer totalled little more than 165 gigalitres (GL) when we would expect to see around 330GL on average.

This heatwave also meant there was very high energy demand which resulted in the usual drop in levels at Lake Eucumbene and the other smaller lakes over the summer period.

But that, in essence, is what the Snowy Scheme is all about - smoothing out those periods of high and low inflows to enable us to produce energy and release water reliably year on year. High energy prices meant we didn't pump much out of Lake Jindabyne due to the cost to do so.

Each year the lakes generally rise in spring and fall in summer and autumn ready for the next winter run off. Some years differ and rise and fall will be more or less pronounced depending on a combination of factors, whether that be high or low rainfall and

inflows, or high energy demand across the network like we have seen in recent months.

Our city cousins, who want to live at a steady and air conditioned 22 degrees during heatwaves, push up energy demand. So, when it was above 40 degrees in Adelaide, Melbourne and Canberra, and over 30 degrees in Sydney, as it was many times over summer, Snowy was called on and delivered energy to meet market demand. In Victoria alone, peak energy demand was almost at record levels.

Our water year ends on April 30 so we are now focussed on making sure we meet our water release obligations by then. Unless things get wet soon, and there is nothing in the forecast to suggest it will right now, Lake Eucumbene will drop a little further and some pumping is likely in Jindabyne over the next month or so.

In our next newsletter I will give you an update of how we are looking and when the next water operations report will be out. We changed the format a little in our 2012-13 report to make it easier to understand and included additional info regarding the foreshores of the lakes and details for events that we hope the community find informative. I really recommend you getting a copy.

This heatwave also meant there was very high energy demand which resulted in the usual drop in levels at Lake Eucumbene...

Balancing the needs and expectations of all stakeholders...



The Snowy Scheme has many stakeholders with various interests. **David Hogan, General Manager Corporate Affairs and Community Relations**, talks about the need to balance community expectations...

The Snowy Scheme by its very nature has many and varied stakeholders. Everyone, from our customers in the market, to those water agencies downstream who are expecting a set release of water each year so that they can allocate it to farmers, and of course our legally binding obligations to make environmental releases. It's a simple reality that no one stakeholder can lay claim to the Scheme.

There are also our local communities around the lakes and the summer tourism industry including trout fishing, boating and water sports that have a strong relationship with the Snowy Scheme lakes and foreshores.

The Snowy Water Licence means that we cannot just let water go nor hold water back indefinitely - we don't have that discretion. While we do have some short term flexibility, long term the Scheme must nominally release 2088 gigalites of water every year and, as you know, Snowy Hydro does not own this water.

In my role I get to spend a lot of time with all stakeholders, understanding their relationship with the Scheme and our business.

Some people see Lake Jindabyne as their own playground and that lake levels should be managed according to their needs. Yet other stakeholders see Lake Jindabyne as a body of water simply on hold before it heads west down the Murray River or set for environmental release down the Snowy River.

I understand and respect people's passion, but understanding that right now some farmer out west on the Murray is at the bank taking out a loan for tractor and seed knowing that water is already signed up to head his way next year, can offer a more realistic view of the full picture.

I also understand the deep and personal connection hundreds of thousands of visitors and locals have with the Scheme.

We are looking at better ways to manage public use around the Snowy Scheme with improved signage and facilities...

All I ask is that whatever your view, please take a wider look and respect the fact that there are many other expectations and, generally speaking, everyone benefits over the long term.

As I mentioned during one community meeting some years ago, 100,000 people from 30 countries didn't come out here to build us a trout pond. But at the same time, Snowy Hydro strongly supports the recreational use on our lakes; they bring enormous benefit to the local community and economy. We support the Snowy Mountains Trout Festival, the Lake Jindabyne Festival and other lakeside events, provide dozens of foreshore facilities and amenities. We also operate three visitors' centres around the Scheme so that the public have a safe and easily accessible place to learn more about this mighty feat of engineering.

Over the summer it was a little disappointing to see some uniformed criticism in the media regarding lake levels. It's even more disappointing to find that these views are being expressed by people who have obviously not taken the time to go to our website for more information, read the latest water report or even give us a call first to discuss.

For example, in the media over the summer period Snowy Hydro was somehow to blame for a supposed terrible fishing season. As a die-hard fisherman myself, I know the fishing over the summer was no different to any other summer season, in that every year is different. In fact, the period leading up to New Year was some of the best fishing I, and many others, have ever seen.

The heatwave conditions over summer saw water temperature in the lakes quite high; Lake Eucumbene nudged over 20 degrees for weeks on end, Talbingo 24 degrees, and Jindabyne over 20 degrees also. There's an old rule that if the water is warm enough to swim in, then the trout won't be within cooee of it. Trout can become distressed in water over 24 degrees. Luckily, all the lakes have deeper areas so the trout can get out of this warmer surface water but they are still there to be caught.

In February I went out with Jindabyne guide Steve Williamson, who also invited local caravan park

operator Nick Elliot along, to see how the fishing was going at Lake Jindabyne. We fished deep and slow in the cooler water and caught four trout around a kilo each within a couple of hours and within sight of town.

Yet others feel that promoting their lack of catch in the media will change things. The only effect this sort of commentary had in the media was to create doubt in the tourism marketplace and had the risk of negatively impacting potential fishers who might want to visit the area. Thankfully, fishing journalists happily work with us to get the message out there that fish are still there to be caught in the Snowy lakes, even when it's hot and dry, and encourage visitors to the area minimising the impact these negative comments can have.

On a related topic, Snowy Hydro has been working closely with local shire councils and caravan park operators to ensure that camping around the lakes is only done so in caravan parks and designated camping areas to ensure rubbish, waste and impact can be best managed for all lake users.

Regrettably, some visitors to the lakes over summer do not abide by the dozens of advices, articles, signs and leaflets to this effect. You can help us by advising visiting friends or relatives that want to camp out around the lakes to book into one of the many caravan and tourist parks around the lakes. They all offer great facilities and is a great way of ensuring that the foreshores are kept clean and tidy while supporting our local businesses and looking after our local environment.

We are looking at better ways to manage public use around the Snowy Scheme with improved signage, facilities and high use area management to make sure that the lakes can remain the great and worthy tourist attraction that they are.

If you have a query or question we would be more than happy to answer it. You can contact us on:

 communityfeedback@snowyhydro.com.au

 02 6453 2210

Dragon Boats draw a crowd to Jindabyne...



Snowy Hydro was proud to again be the major sponsor of the recent Lake Jindabyne Festival and Dragon Boat Challenge. Our Communications Advisor, **Alice Purss**, gives a run down of this outstanding community event...

Snowy Hydro was proud to again be a major sponsor of the recent Lake Jindabyne Flowing Festival and Dragon Boat Challenge, especially the Snowy Hydro Junior Challenge Cup involving our local high schools from Cooma and Jindabyne. The event also draws thousands to the lake to enjoy the spectacle and take in the festival attractions, markets and rides.

This year's event attracted over 800 paddlers who competed across three divisions, the pro sports teams, Community and Corporate teams and the Schools teams. Dragon Boat racing has really grown in popularity and it's great to see this on Lake Jindabyne getting bigger and better each year.

Snowy Hydro has supported the event right from the start. The Snowy Hydro Schools Challenge Cup is also made possible through our sponsorship. This support enables local high schools to participate in the event by covering their entry fees. The Schools Challenge Cup is always a highlight of the event and this year Jindabyne Central School where the junior division winners and Snowy Mountains Grammar School the senior division winners. Well done to all the students and schools who participated.

The competitive spirit showed in the Community and Corporate teams is also a highlight of the day not just for what some the teams decided to race in, everything from formal gowns and black-tie to Hawaiian and cycling gear including helmets!

This year Snowy Hydro had two teams of energetic employees and family compete. Despite very rough and windy conditions during training on Saturday afternoon, both teams turned up pumped and ready to take on the mountains best community teams in the main event on Sunday.

With successful runs in the heats, and with just fractions of seconds between results of both Snowy Hydro teams, in a dramatic (and very wet) display of competition and teamwork, both our teams battled it out in the final and claimed a respectable 4th and 5th place. Well done to the Lakewood team who took out the trophy and bragging rights for the next 12 months.

Thank you to everyone in the community who tested their muscles and paddled, or came along in support. We are looking forward to the 2015 challenge already!

A big thanks also to the organisers of the Lake Jindabyne Flowing Festival and Dragon Boat Challenge which continues to be such a successful event for Jindabyne. Well done to Jo Davis and her team of supporters and volunteers and to Dragon Boats NSW for the coaching, sweeps and drummers to keep us novices all in time!

For a full wrap up of the event visit their website at www.floatingfestival.com.au and I encourage everyone to get along to the 2015 event or organise a team in the community and corporate challenge.

Thank you to everyone in the community who tested their muscles and paddled, or came along in support.





Snowy Hydro CEO, Paul Broad, recently met with the five new Business Administration Trainees and two Apprentices who recently started work with Snowy Hydro. **Tony Brennan** from Human Resources has more...

Snowy Hydro Traineeships are offered annually to school leavers from the local area. The traineeships provide an excellent opportunity for school leavers to gain valuable experience in a corporate environment for 12 months before moving on to tertiary study or their chosen career.

Our 2014 trainees are from Cooma, Berridale and Jindabyne and will complete Certificates III and IV in Business Administration at Cooma TAFE.

CEO Paul Broad recently welcomed the 2014 trainees to the company and spoke of the opportunities available for trainees and apprentices at Snowy Hydro.

New 2014 Trainee Brianna Kerr, said "we didn't know what to expect from our first meeting with the CEO, we were all nervous to begin with but by the end we were

at ease knowing that Paul is approachable and we were touched by his genuine interest in our personal and professional ambitions."

The apprentices, both from Tumut, have commenced a four year program of TAFE study and practical experience. During the program, they will have the opportunity work around the Snowy Scheme and learn from our technical teams in Jindabyne, Khancoban, Talbingo and Cabramurra.

CEO Paul Broad said, "it's great to have local students involved in the traineeship and apprenticeship programs at Snowy Hydro, we have a great team at Snowy Hydro and I am confident they will benefit greatly from their time with us."

Cooma North publishes book...



Snowy Hydro has supported the publishing of a book containing over 130 stories of ex-students of Cooma North Public School. Manager, Visitor Centres, **Heath Woolley**, has more...

The book, "Cooma North School – A Foundation of Multiculturalism" includes stories that students have written about their families, growing up on the Monaro, attending Cooma North School and what became of them in later life.

The stories cover the period from 1953, when the school was first opened, right through to today with five present day students also including their stories of being part of the school.

Snowy Hydro has a long and proud association with the Cooma North Public School, right from when the

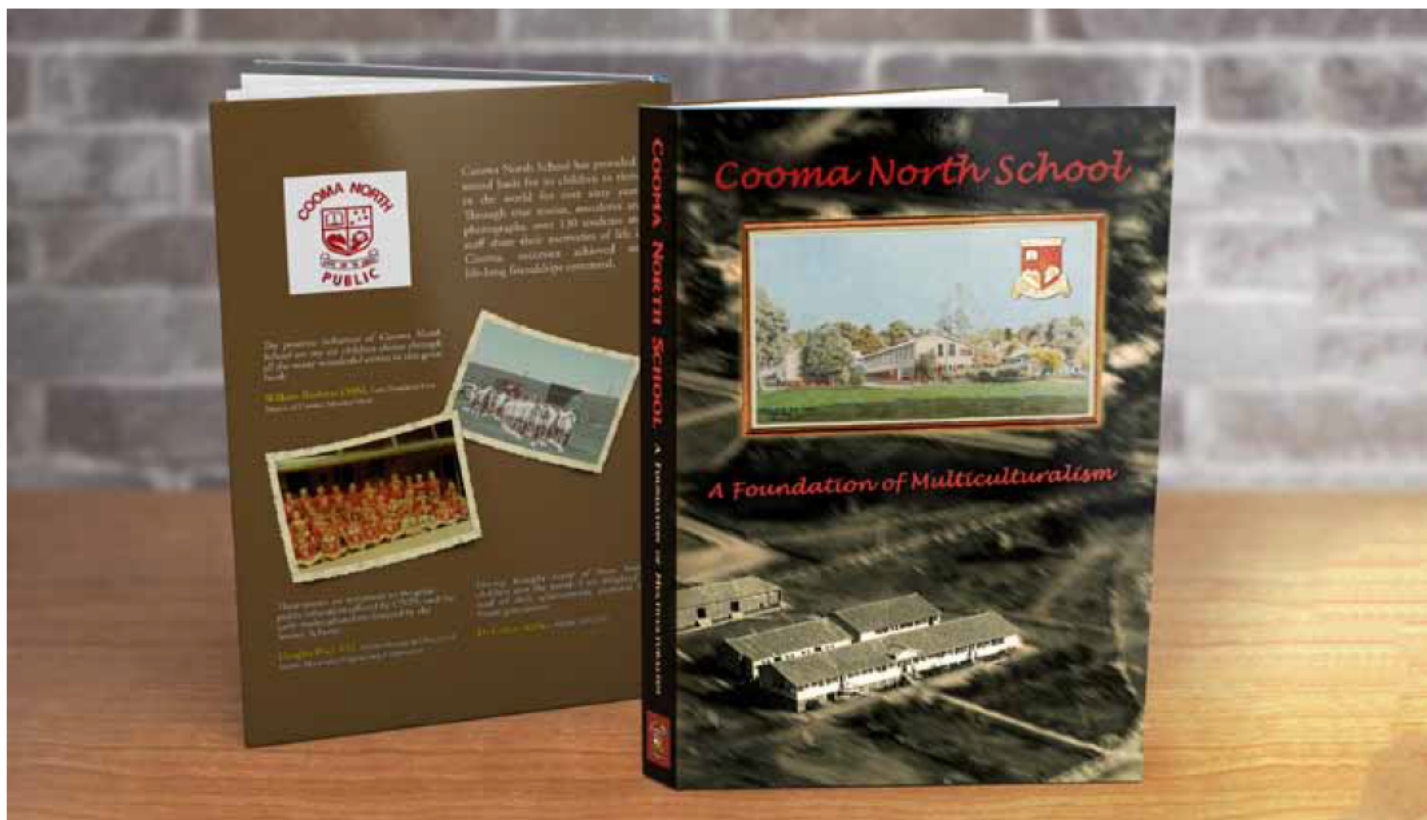
school was opened, through to recent school reunions, and now in supporting the publication of this book.

The book is being launched at the Cooma North Public School hall on Saturday 22 March at 3pm. For more information or to get a copy, contact Marie Cox via:

✉ mari.eron.2008@hotmail.com

☎ 02 6452 2605

Or you can call into the Snowy Hydro Discovery Centre in Cooma and purchase a copy from the end of March.





Raise funds during Awareness Month...



March is Snowy Hydro SouthCare Awareness Month and with the need for the rescue helicopter increasing, so does the need for fundraising for this essential service. CEO of Snowy Hydro SouthCare, **Owen Finegan**, explains how you can help...

Since October 1st, 1998 the Snowy Hydro SouthCare Rescue Helicopter has been a familiar sight and sound across the region providing essential aero-medical and rescue services. Over the past 15 years the helicopter has performed over 5,500 life changing missions, impacting on thousands of lives in the community. In particular during the 2013/14 summer period, the service experienced an increase of 20% missions on the previous year.

Each year Snowy Hydro SouthCare dedicate the month of March to raising awareness of the work performed by its crew members, with the aim of promoting safety messages and encouraging community support. The service is extremely fortunate to have such great community support already, acknowledging our major sponsor, Snowy Hydro Limited, who aligns themselves with same values that the helicopter service promotes.

Accidents and illnesses do not discriminate so we include amongst our patients all age groups, religions, incomes and races. The helicopter service really is for all people from all walks of life.

That fact makes Snowy Hydro SouthCare relevant to everyone in the community. The access to emergency services often sits back of mind. It's not until you have a touch point with Snowy Hydro SouthCare, whether it be yourself or a loved one requiring the service, that you fully appreciate its worth.

During March, Snowy Hydro SouthCare would like you to consider some of the many ways you can assist in raising awareness and funds for the service. Many of the fundraising initiatives are easy to implement and extremely effective in demonstrating support of your local service. In the workplace you could hold a fundraising event; morning tea, dress down day or donate a percentage of sales. You could also sign up for work place giving and become a regular donor. Any contribution great or small is appreciated and assists in keeping the Snowy Hydro SouthCare in the air saving lives.

For more information on Awareness Month visit our website or contact us on the details provided opposite.

Snowy Hydro SouthCare Base Open Day

Snowy Hydro SouthCare Helicopter Base Open Day, Sunday 30 March 2014, 10am – 3pm.
Monaro Highway, Symonston (2km South of Hindmarsh Drive). See the helicopter up close, meet the crew and enjoy a day of entertainment, market stalls and activities for the whole family.

Hold a fundraiser for Snowy Hydro SouthCare during March!

Holding your own fundraising event can be fun and is an easy and extremely effective way to raise awareness of the Snowy Hydro SouthCare Rescue Helicopter.

It is a simple way of making a difference in your community.



sporting event

morning tea

trivia night

bbq

your very own idea!

luncheons

speciality dinner

afternoon tea

If you would like to host a fundraising event please contact:

P 02 6207 9923

E info@snowyhydrosouthcare.com.au

snowyhydrosouthcare.com.au



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Red Energy gives New South Wales the power to choose an electricity supplier that is 100% Australian.

Not only are we 100% owned by the mighty Snowy Hydro, we're based right here in Australia.

That means the community and economy benefit from keeping Aussie jobs here, and our customers benefit by having locally based, award-winning service and great value electricity.

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