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snowyhydro

NEWS

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ISSUE 20



University education now available at the Cooma Universities Centre

David Hogan
Manager, Public Relations & Community Affairs

Wednesday, March 6th played host to a long awaited and much anticipated event in the Cooma community – the opening of the Cooma Universities Centre (CUC).



The CUC, a joint project between Snowy Hydro and Cooma-Monaro Shire Council and four years in the making, is a high tech facility providing university-level distance education opportunities to students in the Snowy Mountains Region.

Around 150 community and business leaders, politicians, school principals and general public attended the opening to see the CUC in operation.

The CUC was officially opened by Snowy Hydro CEO Terry Charlton and the Cooma-Monaro Shire Council Mayor, Dean Lynch. Snowy Hydro Chairman, Mr Bruce Hogan and fellow Director, Joycelyn Morton were also in attendance, as were representatives from universities who offer distance education courses.

Dean Lynch opened the proceedings speaking to his support for the CUC and the opportunities it will provide for the people of the region.

Terry Charlton then reinforced Snowy Hydro's support for the centre, as both a positive and exciting initiative for the community and to boost attraction and retention of employees in regional areas. Finally, Bruce Hogan confirmed the Snowy Hydro Board's support for initiatives like the CUC, which help the company make a real difference to the community.

Chairman, Bruce Hogan, confirmed the Snowy Hydro Board's support for initiatives like the CUC.

Local student, Jess Perkins, who is studying a Bachelor of Pharmacy through the University of New England's distance education program, was the first student to register on the morning of the official opening.

Jess made use of the lecture rooms with an interactive online lecture conducted on the afternoon the centre opened. The CUC received another 11 registrations in the first week, and after only a month of operation, total registrations are now 33 and growing!



L-R: John Barilaro MP, Founding students Jess Perkins, Luke Perkins & Edward Paterson, with CEO Terry Charlton and Mayor Dean Lynch.

To ensure students get a high quality online learning experience the CUC established partnerships with new telecommunications carrier, Countrytell, and the higher education network connection provider, Australia's Academic and Research Network (AARNet). AARNet is a direct connection between Australian Universities (not via the internet), providing services to CUC students – the same as being on the parent university campus.

There has been ongoing discussions with numerous Australian universities in relation to partnerships, bridging courses and student support. The University of Canberra College has just commenced a university preparation course (titled UCan REACH) at the CUC. UCan REACH is a 14-week course that will help students gain entry into university even if they don't have an ATAR and is free of charge to Australian citizens.

Zoe Dawson, the CUC Coordinator, has been in contact with the Distance Learning Coordinators at many of the 38 Australian universities, and is looking forward to the challenge of establishing the centre as the benchmark in regional distance education at university level.

If you would like more information on what the CUC has to offer, call in and visit Zoe at the centre at 38 Bombala Street.



Snowy Hydro Chairman, Bruce Hogan, speaking at the official opening of the CUC.

Welcoming the CUC Coordinator

Some would say that moving from the city to a regional town might be daunting, but not for the newly appointed Coordinator of the Cooma Universities Centre, Zoe Dawson, who has moved from Sydney to Cooma to take on the unique role.



Zoe made the move at the start of March specifically for the unique position of CUC Coordinator. Born and raised in regional NSW, and working in a range of places from Bellingen, to London and Sydney, Zoe was keen to settle back into a regional community.

With a Bachelor of Education (Honours) from University of Wollongong, Zoe has worked in both public and private sector education for over 12 years and has joined the CUC after three years as an Education Officer with the RSPCA.

"I'm incredibly excited to have been offered the chance to be the new CUC Coordinator. I have been looking to move back to the country for quite a while, and the opportunity to work with Snowy Hydro and Cooma-Monaro Shire Council on this new venture is a dream position," said Ms Dawson.



Snowy-Ceechi Tunnel Outage, 2002

Using new technology to assess the condition of the Scheme's tunnels

John Langton
Civil Engineer

Snowy Hydro is committed to maintaining our assets and we support investment in new technology to improve the safety of our people, and the efficiency and effectiveness of our engineering.



In April, the Snowy Hydro Board approved expenditure for an innovative solution for inspection of six unlined tunnels using a high-tech Unmanned Underwater Vehicle (UUV).

The water transfer network of the Snowy Scheme comprises 13 tunnels with a combined length of 135km, and is critically important to the successful operation of the Scheme. Tunnel failures, in the form of blockages, could have a severe impact on our water diversion and electricity generation capacity.

There are two types of tunnels in the Scheme - those "lined" with reinforced concrete, and those that are largely "unlined", having been constructed using different support techniques on the exposed rock face (including the 'rock bolt' invented during Scheme construction). While there is no history of failures of lined tunnels, there have been two in-service failures of unlined tunnels since construction, resulting in lengthy, high-cost repair projects.

To assess the condition of unlined tunnels, 'de-watering' has been used. This involves draining the tunnel of water and undertaking an intensive physical inspection of the tunnel walls at intervals ranging from five to 20 years. Whilst this is an effective way to assess the condition of tunnels, it also involves considerable time and cost investment to reduce risks associated with rock falls and ventilation to ensure the safety of personnel.

The removal of water from the tunnel also changes the pressure on the tunnel walls, which can cause weakness in the rock or even a collapse.

The UUV, a rectangular vehicle measuring 3700mm long and 700mm wide and weighing almost 650kgs, will be directed through tunnels via remote operation. Using advanced cameras, sensors and sonar technology, the UUV will collect data on the condition of the tunnel, including a detailed profile of the entire wall circumference, as it 'swims' up to 12km through the tunnel.

Using the UUV to monitor the condition of unlined tunnels will enable our engineers to review data and make informed decisions on maintenance requirements, without having to drain or physically enter each tunnel. This strategy will result in multi-million dollar savings in terms of costs associated with periodic de-watering and by maximising generation capability.

Investment in this new technology is a positive development for Snowy Hydro and reinforces our focus on Continuous Improvement. This project is a great example of the benefits of innovative thinking and the commitment of our people to investigate 'better ways' of doing things to ensure the safety of our people, provide greater commercial benefit and enhanced confidence in the integrity of these critical assets.



The unmanned underwater vehicle will be remotely operated to monitor and assess unlined tunnel condition.



Snowy Hydro personnel commissioning the modernised T3 generating unit

Investing in the Snowy Scheme - Finalisation of Tumut 3 Power Station Modernisation

Ken Lister

Executive Officer, Engineering & Projects

In 2006 Snowy Hydro embarked on a substantial modernisation program to maximise the value of the Snowy Scheme hydro-generation assets.



The program was to deliver engineering solutions, which underpin our trading strategies and increase our flexibility in responding to future market needs. In 2012, a major milestone of the Scheme Modernisation Project was reached with the completion of

the Tumut 3 Power Station upgrade.

Snowy Hydro has completed the upgrade of all six generating units at Tumut 3. The generating capacity of the station has been increased from 1500 megawatts (MW) to 1650MW, but can deliver up to 1800MW under ideal conditions. This 20% increase was achieved by installing a new turbine runner on each unit.

The new runners not only provide an additional 50MW capability, but also a 3% increase in efficiency, meaning more power output for the same water flow achieved by using sophisticated computerised fluid dynamics and modelling by Toshiba in Japan.



The old runner being removed from Tumut 3, one can be seen in the exterior display at the Snowy Hydro Discovery Centre in Cooma.



The new runner being installed at Tumut 3, the increased curve provides better efficiencies.



However, the 20% increase in generation capacity (or output), was not possible without new digital control systems that have replaced the electro-mechanical components. The new system collects large amounts of precise data involving flows, pressures, temperatures and electrical quantities which is analysed to ensure maximum efficiency and reliability is achieved.

The modernisation of Tumut 3 Power Station has cost just over \$80 million for the replacement of the turbine runners and control systems as well as the refurbishment of the electrical and mechanical components. Planning for this work commenced over 11 years ago and the

successful implementation has been the result of a highly competent Snowy Hydro employees and contractors working together safely and productively. We particularly appreciate the many local businesses that have been involved in the project.

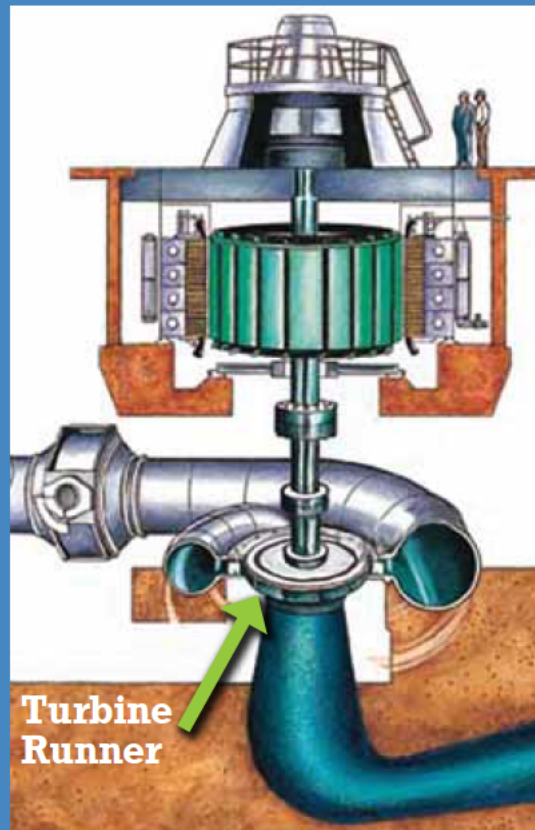
New turbine runners and controls have been installed at Guthega Power Station at the headwaters of the Snowy River. Modernisation work has also commenced at Murray 1 Power Station near Khancoban late in 2012 and will continue until 2024. The Modernisation of Tumut 1 and Tumut 2 Power Stations near Cabramurra commences in 2014.

What is a runner?

A runner is the heart of a hydro electricity generator. It is a wheel of curved blades through which the water passes at pressure giving up the energy in the water and causing it to rotate.

The shape and angle of the blades in the runner are specifically designed to maximise the energy transfer from the water. This wheel is enclosed in a spiral casing and the water flow and energy transferred through the runner is controlled by guide vanes within the spiral casing.

As the runner rotates, it spins the shaft, which in turn spins the generator to create electricity.





Engineering cadetships now supporting local students

Tony Brenan
Recruitment Specialist

Snowy Hydro is committed to supporting education and career opportunities for local students. By investing in our local students, we are investing in our communities, and our future.



We have run our apprenticeship and traineeship programs for many years with great success. This year we have launched a five year Cadetship Program for local students interested in pursuing a career in Electrical or Mechanical Engineering.

The Cadetship Program is run in partnership with the University of Wollongong. Cadets have the opportunity to study at a first class university with a reputation for excellence and academic achievement, while also gaining valuable practical experience throughout their degree. To enable students to prioritise their study, Snowy Hydro also provides generous financial support to Cadets throughout the program, including fee payment and assistance with accommodation expenses.

Students who join the Cadetship Program will undertake full time study for their first three years, with employment experience provided with Snowy Hydro during the summer vacation periods.

In their fourth year, students will work with Snowy Hydro full time for 12 months, before returning to the University of Wollongong for their final year. The mix of study and employment provides the opportunity for cadets to gain 'hands on' experience and translate the theory they have learned at university into real life learning as they work on real projects and plant.

On completion of the Cadetship Program students will be invited to join Snowy Hydro as Graduate Engineers in our Graduate Development Program. The investment in local students through these programs supports the development of our future technical experts and business leaders.

In 2013 we have two local students, from Jindabyne and Tumut, joining the program to study electrical engineering. Based on the success of the program, in 2014 we will be offering two Electrical engineering and one mechanical engineering cadetships. The selection process for 2014 will commence in October this year. We will be looking for local HSC students who demonstrate not only outstanding academic results and a strong interest in engineering, but also a passion for our region and the communities in which we operate.

We look forward with interest to watch the development of our cadets as they grow throughout the program to become valued and respected professionals.



Experience Australia's highest town Cabramurra!

Heath Woolley
Manager, Visitor Centres

At 1488 metres above sea level, Cabramurra is Australia's highest town. Owned and operated by Snowy Hydro, the town has a number of activities to experience.



Bistro 1488 is now open! This amazing bistro has been completely renovated and offers a unique and modern space to enjoy lunch or dinner.

Open to the public, Bistro 1488 offers meals and refreshments seven days a week. Lunch is available from 10.00am to 2.00pm and dinner from 5.00pm to 9.00pm.

The Cabramurra Visitor Centre and Store has also recently been upgraded and offers a range of services including information on Snowy Hydro, a coffee shop serving a range of light refreshments and espresso coffee, an Australia Post outlet, newsagency, fuel station, souvenirs & merchandise and a viewing gallery offering amazing pictures of this unique town.

The Cabramurra Store is open seven days, 8.30am to 5.00pm Monday to Friday and 10.00am to 3.00pm Saturday, Sunday and Public Holidays.

Make sure you take a drive to the Cabramurra Lookout which provides one of the best views in the Kosciuszko National Park. There are free BBQ facilities so why not stop for lunch while enjoying the amazing view.

As Cabramurra is a Snowy Hydro town, no overnight accommodation is available. Motorists are advised to take caution and drive to the weather and road conditions. For more information call the Cabramurra Visitor Centre and Store on 6453 8837.



Cabramurra Visitors Centre & Store

Major breakthrough in childhood cancer cure rates

Danielle Venables

Marketing Communications Advisor

For many years we have listened to the rumbling of motorbikes as they ride into the region for the annual Snowy Ride event, and donated money to the charity ride which raises funds for vital children's cancer research.



The funds raised by the event go to the Steven Walter Children's Cancer Foundation (SWCCF) who then distribute the money to where it's needed most, for research and clinical trials.

Recently a success story of such research came to light, research that would not have been possible without some of the funds donated by SWCCF to the Children's Cancer Institute of Australia (CCIA).

Cure rates of childhood leukaemia, specifically Acute Lymphoblastic Leukaemia, have doubled thanks to a new test that can pick up even the slightest trace of diseased cells. Researchers at CCIA have developed the genetic test that can locate the tiniest traces of the cancer cells in bone marrow, meaning those children at risk of relapse can be given stronger treatment early.

The test is so effective it can pick up the equivalent of one cell amongst 100,000-1,000,000 cells. Researchers are now trialling the test on other forms of childhood cancer to hopefully allow other children suffering from the disease to have the chance of a normal life.

SWCCF has been supporting this research program for over 12 years and have committed an additional \$363,000 in 2013 to both the Kids Cancer Centre at Sydney Children's Hospital & CCIA.

If you want to support ongoing research into Childhood Cancer, get on board and support events such as the Snowy Ride, and even the upcoming Around Australia Ride, of which a number of local Snowy Mountain's residents are participating in. For more information and to donate go to www.stevenwalterfoundation.org.au

Cooma Crew raising funds through the Around Australia Ride

On 1 May 2013, six Cooma residents will take off from the Sydney Children's Hospital on the Around Australia Ride raising funds for the SWCCF. Brian & Dale Coyte, Andrew & Kathy Manthey and Jack & Di Nott will complete the 33 day ride, travelling 15,000km around Australia and finishing back at the Hospital on 3 June 2013.

With over \$18,000 already raised through local events, the aim of the ride is to raise \$150,000 direct to research into childhood brain cancers.

For more information or to donate visit www.stevenwalterfoundation.org.au



The Cooma Crew presenting the funds raised so far, L-R: Dale Coyte, Allan McGuirk (SWCCF), Andrew Manthey, Sue Walter (SWCCF), Kathy Manthey, Brian Coyte and Jack Nott.

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snowyhydro
renewable energy

Finding the right energy deal for you shouldn't be as difficult as negotiating a mogul run. At **Red Energy** we're committed to giving our customers the best value for their energy dollar that we can.

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Red is 100% Australian owned and operated by Snowy Hydro which means profits stay in Australia making our economy stronger. Our award winning Customer Solutions team are based right here in Australia too.

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What's on in the region...

In future editions of Snowy Hydro NEWS we will be including a calendar of local events to help outline upcoming community initiatives and events.

If you have an initiative or event that you would like included, email us a short outline of what is happening and the date to communityfeedback@snowyhydro.com.au

May

DATE	
1 May	Steven Walter Foundation Fundraiser, 'Around Australia Ride' commences
1-3 May	Snowy Hydro Young Driver Training Practical - Monaro High School
3-5 May	Thredbo Jazz Festival - www.thredbo.com.au
12 May	Snowy Mountains Mothers Day Classic Walk & Run Fundraiser, Lake Jindabyne
19 May	Batlow Cider Festival, Pioneer St, Batlow
19 May	RSPCA Million Paws Walk, Cooma & Berridale
24-27 May	Trout Angler Summit, Lake Crackenback Resort, lakecrackenback.com.au

June

DATE	
7-10 June	5th Snowy Mountains of Music Festival, Perisher, snowymountainsofmusic.com.au
10 June	Queen's Birthday Public Holiday

July

DATE	
6 July	Tumut District Poultry Club, 5th Anniversary Show, Tumut Showgrounds
29 Jun - 14 Jul	NSW School Holidays
27 Jul - 18 Aug	Enrico Scotece Photography Exhibition, Raglan Gallery Cooma

Remember - if you would like your community event advertised for free in "What's on in the region" email the details to: communityfeedback@snowyhydro.com.au