

Engineering Tasmania

July 2010



ENGINEERS
AUSTRALIA
Tasmania Division

Newsletter of Engineers Australia, Tas Division - Royal Engineers Building, 2 Davey Street Hobart
Telephone (03) 6234 2228, Fax (03) 6234 2216 or E-mail tasmania@engineersaustralia.org.au

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PRESIDENT'S REPORT



Hi all,

Lots to write about this month! We had a very successful and well received launch of the **2010 Tasmanian Infrastructure Report Card** with good coverage on Win, Southern Cross and ABC TV news segments, the Mercury, Examiner and Advocate newspapers, and radio interviews on southern and northern ABC radio along with syndicated commercial radio. The launch lunch was well attended (105 people) by a mixture of Fellows, invited guests and others interested in Tasmania's infrastructure. Among the guests were the infrastructure representatives of the Labour, Liberal and Greens parties, with a total of eight politicians

representing both houses of Parliament showing they recognise how important the role of infrastructure is to the future of our state. I have also been invited to speak on the 2010 Infrastructure Report Card at the Australian Water Association conference Taswater10 on June 23rd – obviously focusing on the water elements of our infrastructure.

I also attended the **Construction Innovation Summit** held at Moorilla which featured a broad cross section of the building and construction industry across the State, ranging from Property Investors, subcontractors, suppliers, architects, engineers, building surveyors, lawyers, builders, economists, project managers, client representatives, etc. It was a very fruitful day, with ideas for innovation and future visions put forward. While we have some disadvantages as a result of our geographic isolation and low population, this can be an advantage in some areas as it is easier to change systems in a smaller operation. I attended a dinner that night which coincided with a meeting of the building and construction training organisations from around Australia where Tasmanian Treasurer Michael Aird was presented a memento to mark his role in setting up Australia's first industry specific training legislation (20 yrs ago). I managed to speak to him briefly after the dinner and he was supportive of the Infrastructure Report Card and the information it had provided in the past – governments do take notice which is great to know, considering the amount of time, effort and cost that goes in to researching and publishing the report cards around Australia.

On 13 July at Deloraine, the YEAT/CELM groups have organised a **Northern Launch of the Year of Engineering Leadership**, which will include a presentation by SKM Tasmanian Manager Greg Walters similar to his talk the breakfast launch in Hobart earlier this year, and I will be giving a brief presentation on the 2010 Tasmanian Infrastructure Report Card. See page 9 for further information.

By the way if you would like any further information on the IRC, there is an abundance of info available from the web site www.engineersaustralia.org.au/ircas - you can download the entire report, individual sections, the summary, the communiqué, and if you find reading a struggle, you can even listen and watch me discuss the result in less than 5 minutes! Copies of the full report are available from the Division Office if you would like one.

As you will read later in this newsletter, the current **Sir John Holland Civil Engineer of the Year** Chris Dan will be speaking on dam engineering (or should that be engineering of dams?) on Wednesday, 21 July. Chris is a very talented engineer and even if you are not into dams, you will get something out of the way he focuses on teams to achieve outstanding results.

Last edition, it was interesting to note the summaries by Sandra Thaow and Jess Andrewartha on the **YEA/CELM Engineering Leadership Conference** in Brisbane in early May. Both obviously picked up on the "communicate, communicate, communicate" mantra that was part of the message they received, Sandra's comment that email is not

communication was also very astute and noteworthy! Communication is the sending and receiving of a message, sending an email is only communication when there is confirmation that the message has been received (and I'm not referring to read receipts!).

Many members would have received an email from National President Doug Hargraves regarding the 2nd draft **By-Laws and Royal Charter** which is now on the Engineers Australia web site for members to review and give feedback on. As your Tasmanian Congress representatives, Mike Green and I are keen for everyone involved to have a look and put forward your views, not just to Mike and I, but by commenting via the web site, all Congress members get the benefit of your thoughts. Mike and I will be attending the Congress meeting in Melbourne on 27 & 28 July. The web site also is looking for further comments on the revised draft of the proposed new Code of Ethics, so please keep the feedback going.

Finally, I am very pleased to announce that **Greg Walters** has been elected as **Vice President of the Tasmania Division**, and will (subject to due process) succeed me next year. Greg has a wealth of knowledge and experience having previously been Vice President in South Australia and in the ACT where he went on to be President (he got promoted by his employer out of SA before taking over the President's role). Greg has served on Congress and we have already met to discuss the Engineering Excellence Awards for next year – some of these activities need to be planned well in advance to secure venues, etc. I am sure Greg will do a great job in this role.

Grant Atherton, FIEAust CPEng

UPGRADING MEMBERS



JANE BAILEY, FIEAust

Jane Bailey (nee Barrow) graduated from the University of Melbourne in 1983 with a Bachelor of Engineering with Honours (Electrical).

Jane's first engineering position was as an Electronics Engineer at BHP's Melbourne Research Laboratories in the design and maintenance of electronic instrumentation.

In 1985 Jane joined Motorola Communications, Melbourne, as a Project Engineer responsible for the management of radio communications system projects from contract execution through to final completion. Jane became Manager of Project Engineering for Motorola in 1988.

In 1989 Jane moved to the Department of Construction, Hobart, as an Electrical Engineer Class 3 responsible for Electrical and Communications Services involved in the various construction projects undertaken by the Department. In 1991 Jane joined Stephenson EMF Consultants, Hobart, as a Senior Communications Engineer responsible for obtaining and performing communications consulting work for the company.

In 1992 Jane commenced her career at Hydro Tasmania firstly as a Communications Design Engineer, and then as Communications Development Engineer. In 1998 Jane became Manager Telecommunications Services for Hydro Tasmania. This involved the development of Hydro Tasmania's Telecommunications Group of approximately 30 people,

from an internal cost centre into a profitable business unit providing a range of high performance telecommunications services both internally and externally to the organisation. In 2008, as Manager Telecommunications Transition, Jane assisted with the transfer of the Telecommunications business to Transend Networks.

In 2008 Jane moved to Acutel Consulting as Principal Consultant. In this position, Jane has undertaken business consultancy and telecommunications engineering and project work for various clients providing strategic advice, project initiation and various other assignments.

Career highlights include:

- Project management for the implementation of Hydro Tasmania's Statewide PABX network.
- The development and establishment of a new telecommunications services company, TasTel, for which Jane was also a foundation Director;
- Provision of radiocommunications engineering consultancy services in relation to the establishment of various wind farms; the research of current national and international standards and development of the EMI section of the National Windfarm Development Guidelines;
- Wide Area Paging systems in Sydney and Adelaide; Simulcast Clear and Encrypted Voice system for Victoria Police; Statewide Mobile Radio System and Radio Control Rooms for Tasmania Police; Telemetry systems for ICI Saltfields Adelaide and Robe River Iron, Karratha WA.

Jane is married to Scott and has two children, Georgia (15) and Nicola (13). In her spare time she enjoys playing soccer, and is learning to play the piano.



DAVID SONDERGELD, MIEAust

I am currently the manager northern operations with the Department of Infrastructure Energy and Resources in Launceston. I lead a multi-skilled professional and technical group to build and maintain skills and capability in road maintenance, project management and contract administration. I strategically manage as the primary superintendent's representative for the Northern Maintenance Contracts and other contracts, and liaise with clients / contractors to ensure the Agency's maintenance objectives are achieved and budget and contractor performance targets are met. I am also the superintendent for the King and Flinders Island's maintenance contracts as well as the principal's delegate for the Cape Barren Island Road Maintenance Funding Agreement.

As well as road maintenance, I also manage and oversee various road and bridge construction projects in Northern Tasmania. This involves management through the preconstruction, design and procurement phases.

I commenced my engineering career sometime ago as a cadet technical officer with Queensland Rail. I was also introduced to tertiary engineering study when I commenced the Associate Diploma in Civil Engineering externally through the University of Southern Queensland in Toowoomba. I have continued this endeavour for tertiary study to gain qualifications such as; the Bachelor of Civil Engineering,

Graduate Diploma in Engineering Technology with a Municipal Engineering Major, Diploma of Project Management and a Graduate Diploma in Public Sector Leadership. I am currently well over half way through my Master of Project Management, again externally through the University of Southern Queensland.

Over my extensive journey through my civil engineering career, I have achieved many milestones that appeared insurmountable in the beginning. Through adopting a project management philosophy and focussing on the goals and outcomes, I have been able to achieve many of my career goals. I consider my major achievements as; effectively transitioning from a rail construction environment to a State Government roads and bridges management environment, being flexible and focussed to transition between roles with commercial contractors and roles superintending contracts for Government clients, my ability to manage my theoretical knowledge gain through study in parallel with gaining practical skills in the work place and my ability to maintain a relationship with my wife and children through my career.

My short term goal is to refine and enhance skills to gain further valuable knowledge and experience in the leadership, project management, planning, design, construction, maintenance and asset management of public infrastructure. I also have a long-term goal to be a competent professional Civil Engineer with a demonstrated and practical broad knowledge base in research, planning, development, design, innovation, project management, construction, maintenance, operations management and asset management of a public infrastructure.

CONGRATULATIONS / WELCOME

Members joining, rejoining
or upgrading

FELLOWS

Jane Bailey, FIEAust
Scott Bailey, FIEAust CPEng

MEMBERS

Hai Le, MIEAust
Simon McCrossen, MIEAust
Sreekar Purmandla, MIEAust
David Sondergeld, MIEAust

GRADUATE

Shirley Chiu, GradIEAust
James Goodger, GradIEAust
Patrick Marshall, GradIEAust
Damien Scott, GradIEAust
Tony Sim, GradIEAust
Brendan Stanborough, GradIEAust
Wei Ting, GradIEAust
Wing Wan, GradIEAust

STUDENTS

(StudIEAust)

Jeremy Hills
Leonard Kerslake
Khan Peoples
Joel Rogers
John Rogers
Nathan Williams

It's your
CPD: understand it...
do it...
record it...

visit www.engineersaustralia.org.au/cpd/



2010 YEAR OF
ENGINEERING
LEADERSHIP





Some photos from the very successful launch of the Infrastructure Report Card and the preceding press conference which resulted in considerable media coverage as outlined by Grant on page 1. In all, there were over 40 media hits in newspapers, on television news, radio news and drive time interviews, online news, AAP, and comments and media releases by politicians and other organisations.

The release of the State Government budget in mid June has seen further reference to the Report Card in the media in relation to funding commitments for infrastructure, including in the Australian and Canberra Times.

At the launch David Spence outlined the Government's Infrastructure Strategy. An article on the Strategy can be reviewed on pages 6 & 7.





Launched in February 2010, the Tasmanian Infrastructure Strategy represents more than \$6 billion of infrastructure investment over the next 10 years and beyond.

The Strategy provides a long-term vision for infrastructure in Tasmania. It changes the approach to planning, delivery and maintenance of infrastructure in Tasmania and encourages infrastructure decisions based on sound evidence and analysis in order to provide infrastructure on a sustainable basis.

To this end, the Strategy provides the co-ordination and integration essential to extracting significant gains from our key economic infrastructure sectors of transport, water, energy and telecommunications.

SECTORS

• *Transport*

Almost every Tasmanian uses the State's transport system on a daily basis – it is vital to the State's economy and to our communities.

• *Water*

Tasmania has less than one per cent of Australia's total land area but captures almost 12 per cent of the nation's total annual water run-off.

• *Energy*

Tasmania is well placed to take advantage of its natural resources to play a leading role and exploit the opportunities presented by a carbon-constrained future.

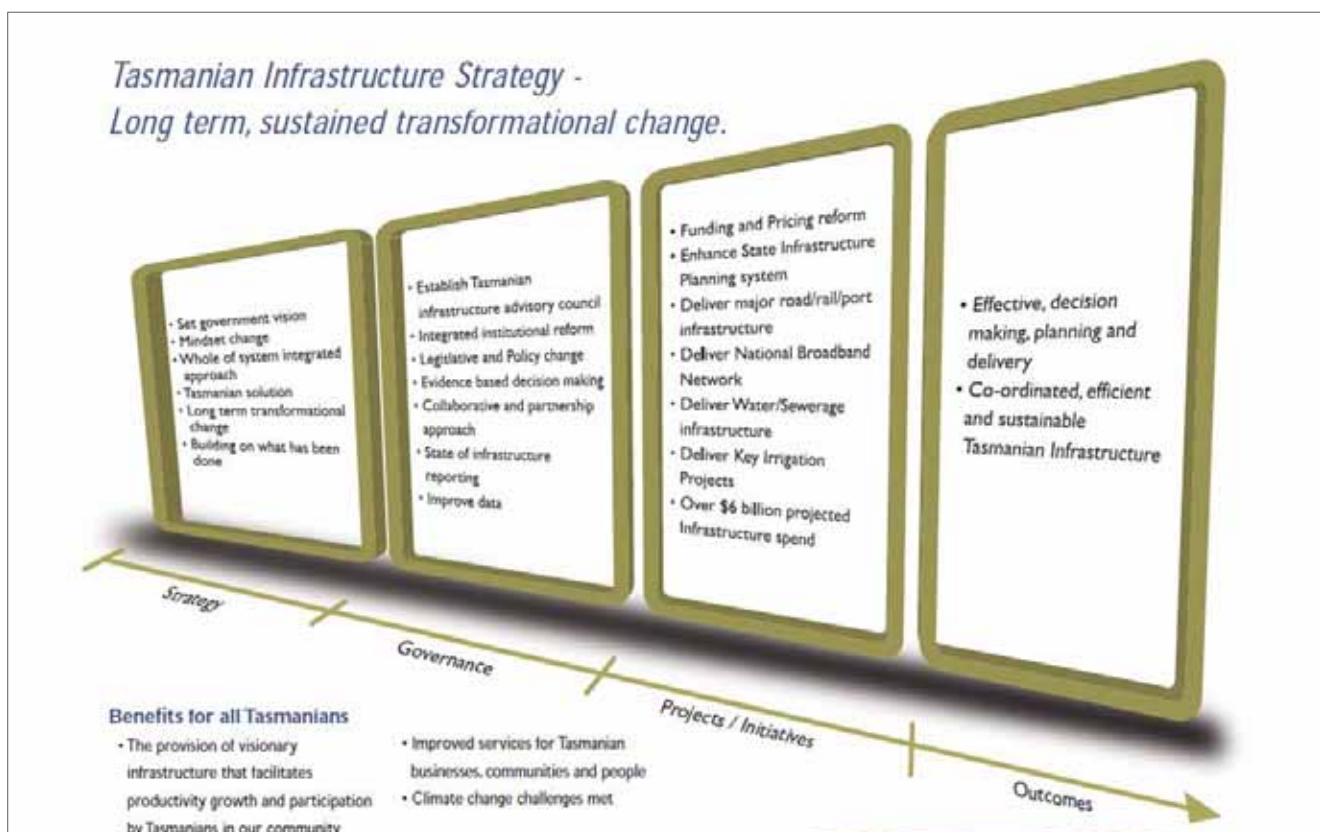
• *Digital*

The change from analogue to digital technologies will be as significant to Tasmania as the changes brought to the State by hydro-electricity a century ago.

The Tasmanian Infrastructure Strategy is well placed to deliver on the recommendations of the recently released Engineers Australia Infrastructure Report Card. It complements the Tasmanian Skills Strategy which, among other things, aims to provide a responsive training and education market to meet skills needs.

The Tasmanian Government has committed to ensuring co-ordination of road delivery across the three levels of government and will ultimately implement a commercial model for State road delivery. These reforms have the potential to significantly assist and integrate local government road planning.

Land Use Planning Reforms, being led by the Tasmanian Planning Commission, also have the potential to



significantly assist local government to obtain more efficient and co-ordinated infrastructure delivery.

In terms of implementing an integrated transport strategy, the soon-to-be-released Southern Integrated Transport Plan is part of an ongoing process to provide a strategic and integrated approach to transport planning across Tasmania's three major regions. Similarly, the Tasmanian Urban Passenger Transport Framework, released in January 2010, is a key output of the Tasmanian Infrastructure Strategy and sets out the Government's future direction for passenger transport for Tasmania's urban areas.

CONSULTATION

In developing the Tasmanian Infrastructure Strategy, extensive input was sought from business, community leaders, local government, transport, telecommunications, water, energy and other key stakeholders on the broader issues surrounding infrastructure in Tasmania. These stakeholders had a major influence on shaping its direction and content. Through the Strategy, the Tasmanian Government has committed to establishing a Tasmanian Infrastructure Advisory Council to ensure that this collaboration continues.

The infrastructure focus areas that emerged from the consultation represent the priority areas that need to be addressed, providing the basis for the actions in the Strategy for the next 10 years and beyond:

- *Co-ordinated Infrastructure Planning*
- *Effective Governance and Decision Making*
- *Viable and Sustainable Infrastructure*
- *Efficient Infrastructure Delivery*
- *Levering our Natural Advantage*

In order to reach this vision, the Tasmanian Infrastructure Strategy sets goals for the next three, five and 10 years and beyond. It comprises a mixture of strategies, changes in governance and the delivery of projects and initiatives. Each of these accomplished in a co-ordinated manner will ensure long-term sustained transformational change from which the Tasmanian economy will enjoy significant benefits.

The Strategy is a web-based initiative which will be continually reviewed and updated to reflect emerging issues, new priorities, and emerging technologies. For more information, please visit www.infrastructure.tas.gov.au

David Spence

General Manager, Infrastructure Strategy Division
Department of Infrastructure, Energy and Resources

POSITION WANTED TAS/03

Mechanical Engineer, GradOIEAust - Recently completed an Advanced Diploma of Engineering (Mechanical) at Central Institute of Technology (TAFE), Subiaco campus Western Australia, which involved CAD (AutoCAD and Solidworks including 3D), scientific principles (thermodynamics, fluid dynamics and engineering mechanics), project management, electronics and additional renewable energy units.

My working experience of over 25 years covers a variety of fields including automotive - (performance, motorsport), resources - (geology, mining, plant maintenance) and aviation - (maintenance, restoration, flying) which have involved re-engineering and modifying equipment, fabrication of equipment for specific applications, problem solving, sourcing unusual items and customer service, in addition to normal duties. This work has included a wide variety of mechanical, electrical and electronic trouble shooting and servicing.

Together with my technical knowledge, IT skills, professionalism and excellent communication including German language skills I am looking to work in product development with new technologies including renewable energy without being limited to mechanical engineering.

YOUNG ENGINEERS



*Sandra Thaow, MIEAust CPEng
Chair,
Young Engineers Tasmania*

new minds
new ideas.

After my mammoth article last month, I unfortunately don't have much to report this month. May disappeared into the ether amidst a hectic flurry of papers, emails and telephone calls, as is usually the case around this time of year. I spared a thought for all the university students sitting their exams although by the time this article is out I suspect they will all be thoroughly enjoying their holidays.

In May, YEAT held a calendar planning session to review the range of events that we run to identify what extra value that we can provide for our members. A number of new events were identified for next year such as a CPEng Forum, with a panel of people at different stages of their CPEng, and a Money Seminar regarding tax, investments etc., which we are looking at holding in conjunction with the Young Professionals Network Tasmania and the Northern Young Professionals Network Tasmania. If there is an event that you would like to see, let us know by emailing us.

As mentioned in last month's newsletter, YEAT are proud to be jointly hosting the Northern Year of Engineering Leadership Dinner and Infrastructure Report Card Launch at the Deloraine Hotel on the Tuesday, 13 July. Greg Walters from Sinclair Knight Merz will be continuing his role as the Year of Engineering Leadership guest

speaker, with our Division President, Grant Atherton, also making an appearance to launch the 2010 Tasmanian Infrastructure Report Card. **Please refer to the advertisement on the opposite page.**

Tickets are only \$15 for EA members and \$35 for non members, which covers the cost of a two course dinner – choose from 4 mains and 2 desserts – and drinks for the evening. To find out more information about the event, please contact Catherine Reading.

The visit from the National CPEng Assessor for Tasmania, Robert (Bob) Law, has also been confirmed. **Bob will be running CER Writing presentations on Tuesday, 6 July in Hobart at the Royal Engineers Building and Wednesday, 7 July in Launceston at the Mercure Hotel. (refer to advertisement on page 11)**

These presentations are open to all engineers wanting to achieve their Chartered Status whom would like to find out a bit more about the nuts and bolts of it from the assessors or would like to discuss any individual issues. To confirm your attendance, please contact Catherine Reading.

YEAT are also in discussions with the Engineering Society at the University of Tasmania to organise industry speakers for second semester, especially for



third year students looking for vacation work. Watch this space for more info.

A month later sees Australian Engineering Week in August with a myriad of activities during and outside the week. YEAT will be hosting a Speed Networking event in Hobart with a Northern Speed Networking to follow in October. More details of these events will be advertised as they become available.

Due to other commitments, Bex Dunn has had to step down from the position of Vice Chair on the YEAT committee and Jess Andrewartha's tenure as Tasmania's National YEA Representative has come to an end so there are currently significant opportunities for personal and leadership development within the YEAT committee.

The YEAT Committee meets on the last Tuesday of every month at 5:40 pm in the Royal Engineers Building, 2 Davey Street, Hobart so come along and check out how we operate if you're interested.

**Sandra Thaow, MIEAust CPEng
Chair, YEAT**
yeatas@engineersaustralia.org.au

Year of Engineering Leadership Dinner & Tasmanian Infrastructure Report Card Launch



Tuesday, 13 July 2010

Deloraine Hotel, Emu Bay Road Deloraine

6:00pm for a 6:30pm start

Cost: EA members - \$15, Non members - \$35

Price includes a two course meal and drinks

RSVP ESSENTIAL by Tuesday, 6 July 2010



Engineers Australia and its special interest groups invite you to attend the Year of Engineering Leadership Dinner and the Northern Launch of the 2010 Tasmanian Infrastructure Report Card.

The objectives of the evening are to celebrate leadership and its pursuit at all levels of the engineering profession and to review the progress of Tasmania's infrastructure since 2005.

Greg Walters, State Manager of Sinclair Knight Merz Tasmania, and Vice President of the Tasmania Division.

Grant Atherton, Principal of Johnstone, McGee & Gandy and President of the Tasmania Division will be presenting at the event, followed by opportunities to mingle over a meal.



RSVP to Catherine Reading by Tuesday, 6 July 2010

Phone: 6234 2228 Fax: 6234 2216

creading@engineersaustralia.org.au

www.engineersaustralia.org.au



Greg Walters FIEAust CPEng EngExec is the Tasmania Division Vice President.

After 19 years in the Australian Army, Greg joined SKM in 2001 to set up their national Defence business. Since then he has held a variety of senior management roles, including Country Manager India.

Greg has been an active member of Engineers Australia over the years, starting with his involvement in Young Engineers. He served various roles including President of the Canberra Division of Engineers Australia and National President of the Australian Society of Defence Engineering.



Grant Atherton, FIEAust CPEng is the Tasmania Division President of Engineers Australia.

The adequacy of our State's infrastructure is directly related to the quality of life for all Tasmanians now and for the future.

It underpins the delivery of essential services, drives economic growth, supports social needs and is crucial to the economic performance and development of our State.

In 2005, Engineers Australia took the initiative to raise community awareness of the importance of infrastructure, and to encourage governments and the private sector to work collectively for infrastructure provision and management by publishing the first Tasmanian Infrastructure Report Card.

Five years on it is timely that we review progress on the adequacy of Tasmania's infrastructure and, in the 2010 report, we have expanded the number of areas of our infrastructure for scrutiny, to include roads, rail, water issues, electricity, gas, airports, ports and telecommunications.



Rowan Crosbie-Gould
Engineers Australia
Industry Manager
for Tasmania and Victoria

Hints and Tips on writing Career Episode Reports (CERs)

During my recent visit to Tasmania, several issues arose which are common to most engineers striving to achieve Chartered Status through the Professional development Program (PDP) pathway. It struck me that many engineers do not understand what is required in writing Career Episode Reports (CERs) to satisfy the requirements under the competency framework. This article is the first of several I will write through the year to help clarify this understanding.

In a future article (hopefully next month's newsletter) I will outline why Chartered Status is increasingly important and how it impacts on engineers' ability to practise. It will explain why it is relevant to you.

I would like to emphasise at the outset that it is very important for engineers on a PDP to attend a Chartered Status Introductory Session delivered by an Engineers Australia Industry Manager, and a CER Writing Workshop delivered by an Engineers Australia National Assessor at the absolute minimum. It is also very important for PDP organisations to schedule a Seniors Briefing session for their managers and mentors to attend so they are equipped to provide meaningful support to their PDP participant engineers.

There are other presentations and workshops occasionally offered which enhance these sessions for the benefit of engineers striving for Chartered Status, which are advisable to attend.

A CER is the medium through which an engineer presents an argument to substantiate a claim for one or more Elements of Competency against the competency framework in the Chartered Status Handbook. Within the Handbook, Elements are grouped in Units of Competency and have some commonalities, whether they are part of a process or similar types of skill sets. The Elements have Defining Activities pertaining to them that indicate the issues that need to be addressed in substantiating a claim for an Element of Competency.

The most common shortfalls in a claim for Elements of Competency in CERs submitted for assessment include:

- not covering all or most of the Defining Activities pertaining to the Element, and therefore lacking substance to back up the claim. Assessors interpret the validity of a claim for an Element of Competency largely by how well the writer has addressed the Defining Activities. This should be done without relying on assumptions on the part of the reader. Don't expect the Assessor to "read between the lines".
- Making general assertions - comments where the writer makes a claim without substantiating it with evidence. Evidence is provided not just by writing about what you did, but by demonstrating that you have applied your engineering

knowledge, skills and judgement in the way you did it, and what tools you have used to make decisions to achieve a desirable outcome.

- A lot of writers do not use the first person singular active tense well enough to provide evidence to substantiate their claim for Elements of competency. What you need to write is, "What I did and How I did it", and where appropriate this can be backed up with "Why I did it". The narrative in a CER should contain a great deal of "I did by" Or, "I did using"

I have seen about 120 PDPs in some of our 320 partner organisations and there are some common characteristics across companies with the best programs in place. The three most important keys to a successful PDP in an organisation are:

1. The PDP is integrated to some extent in the organisations performance appraisal systems – this can be done in a variety of ways and Engineers Australia Industry Managers are happy to talk about ideas for how this can be done with little or no extra workloads on HR, L&D and engineering management.
2. More active and successful PDPs occur in organisations with strong support from management and mentors where these people understand the program structure and framework, the processes and challenges that PDP participants face on their path to Chartered Status. This underlines the importance of the Senior's Briefing Session that Engineers Australia Industry Managers provide as part of the PDP Agreement to PDP partner organisations.
3. Organisations where PDP participants have their own Peer Support Groups tend to have more activity within their PDP. These groups get together regularly to provide support for individuals writing CERs. Those with less experience benefit greatly from those who have written several CERs and have had claims for Elements of Competency endorsed. These groups often invite Chartered Engineers to talk about writing CERs and their experience.

Many organisations do not have strongly supported HR departments and are looking for outside support for learning and development of their engineering staff. The PDP provides a specific structure without requiring substantial resources internally and can be an easy option for these organisations. It also dovetails well into existing learning and development programs within engineering organisations with more substantial resources and programs already in place.

For those organisations looking for a broader and more structured learning and development program for their engineering staff, I recommend taking a close look at Engineering Education Australia's **Graduate Program** <http://www.ee Aust.com.au/graduateprogram>

This program is a structured development program for engineers which focuses on the learning needs of engineers and includes the PDP, but goes further into other learning needs.

Contact Engineering Education Australia for more information (03) 9274 9600.



**ENGINEERS
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NATIONAL ASSESSOR'S VISIT TO TASMANIA

HOBART - TUESDAY, 6 JULY 2010

Royal Engineers Building,
2 Davey Street, Hobart
5.30pm

LAUNCESTON – WEDNESDAY, 7 JULY 2010

Mercure Hotel
3 Earl Street, Launceston
5.30pm

COMBINED

**HOW TO GAIN CHARTERED STATUS &
HOW TO WRITE A CAREER EPISODE**



**ENGINEERS
AUSTRALIA
Tasmania Division**



Bob Law, one of Engineers Australia's National Assessor's assigned to Tasmania, will be visiting the State in July and conducting two presentations on:

- how to gain Chartered Status
- how to write a career episode (CER);
- provide feedback on draft career episodes that you have written;
- answer any queries in relation to the Professional Development Program;

These presentations aim to convince you that writing CERs are not such a daunting task as you may have first thought !

There will be time at the end of each session for Bob to answer individual questions on a "one to one" basis.

Bob is one of the people who will assess your career episodes and your engineering Practice Report, so please take this opportunity to come and meet him in person and ask any questions that you may have.

Bob's functions as a National Assessor include:

- To assess applications for Chartered status
- To facilitate Professional Interviews for those applicants whose written submissions are satisfactory
- To assist potential candidates with their applications by personal advice and by the convening of workshops
- To liaise with Industry to ensure the structured career development of engineering graduates on the road to Chartered
- To advise and assist engineering graduates in the structuring of their careers

To register, please contact Catherine Reading on 6234 2228 or creading@engineersaustralia.org.au by no later than Thursday, 1 July 2010 as light refreshments will be served.



Nyssa Muir, GradIEAust

WOMEN IN ENGINEERING

Women in Engineering, Tasmania
Attract. Support. Develop. Celebrate.
Our mission is to increase the participation of women in the engineering profession and allow our member's aspirations to flourish.

Events

4th Annual Women's Leadership Symposium



Date: 26 & 27 July 2010
Venue: The RACV club, Melbourne
Cost: \$895 (this is the discount rate for Tasmanians, yay for us!)
More info: <http://www.wla.com.au/>

15th International Conference for Women Engineers & Scientists



Have you been working on something pretty cool or researched something awesome? Then write about it and send your abstract to the folks organising the ICWES. This is an international forum and Australia is fortunate to host it in 2011.

Abstracts Due Date: 1 December 2010
Venue: Adelaide
More info: www.icwes15.org

News

NAWIC Committee Vic/Tas Chapter Nominations

The National Association of Women In Construction (NAWIC) is looking for new committee members for its Vic/Tas chapter. The Victorian/Tasmanian Chapter of NAWIC was established in 1995 and currently has over 250 members from a wide range of construction industry occupations including; engineers, lawyers, architects, project managers, builders, quantity surveyors, tradeswomen, interior designers, small businesswomen, marketing, education, developers, property, and research and development. If you would like to participate or obtain more information, follow this link <http://www.nawic.com.au/>

Thesis Recommendations

UTAS student *Samantha Lane* has completed her thesis on **'Perceptions of Engineering Students at UTAS & of Engineers within the Tasmanian Workforce'**. She has made the following recommendations, many of which align with the Tas WIE Committee's missions:

- Considering the low number of women in engineering and the evident skill shortage, all schools should be encouraged to hold compulsory information sessions for students, held by successful female engineers.
- Offering larger scholarships to women and encouraging engineering firms to have graduate programs aimed at attracting females may have a positive effect on the number of female students and the retention rates.
- Increasing the number of female lecturers at the university would provide students with positive female role models thus increasing the confidence of female students in their ability to perform proficiently as engineers and thus their career choice.
- In first year at university, female engineering students should be placed into groups with other female students in team work situations to promote friendships. Bringing the minority group together may decrease feelings of alienation and increase levels of confidence by providing support and the knowledge that there are other people experiencing similar insecurities/issues.
- Engineering firms need to promote a family friendly environment. Flexibility in hours and part time work for females with families is essential.

Reflection

Holidays for Engineers...

With the year half gone and with winter upon us, many of us are thinking about holidays (well I am anyway). Christmas was a long ago and if work is getting dreary, here are some holiday ideas for the engineeringly minded. Sure, you can always laze away on a tropical beach somewhere (and that is très chillaxing too), but on your world travels you can also take a squiz at some of the engineering wonders of the world. These amazing projects are incredible, and you can enjoy the sight of them whilst enjoying the fact that you never had to endure any of the stress the engineers designing them probably did! While you may have to endure a little eye-rolling from any accompanying husband/wife/ankle-bitter, rest assured that they'll at least learn something on their holidays too.

1. Toyota Factory, Toyota City, Japan.

Tour cost = **FREE!**

Now, I'm a little biased putting this one first because I've actually been there.



And it was awesome. The welding floor with all the robots welding bits together was incredible. Everything is automated and the Toyota people live & breathe the 'Lean Principal' (extremely efficient manufacturing philosophy). I walked away wanting to buy a Prius. And a talking robot. In Hello Kitty pink...

2. Hoover Dam, Nevada-Arizona Border, USA
Tour cost = \$30 USD



Here's a tour for all the Hydro geeks (confessed or unconfessed...). Built in 1936, it impounds the Colorado river creating Lake Mead. It houses 17 Francis turbines with a combined output of 1080MW.

Despite all the terrorism stuff in the USA, you can still do a tour that goes into the powerhouse and around the dam wall. The tour is run by the Bureau of Reclamation and over a million people a year are shown through the powerhouse hall. However, Hoover Dam does not contain a frozen Decepticon as the Transformers movie would have you believe. Unfortunately.

3. The Dish, Parkes Radio Telescope, Australia
Cost = Free



Built in 1961 and now run by CSIRO it is most famous for its involvement with receiving footage of the first moon walk in 1969. I've been there a couple of times now as it's a nice little stop when driving to QLD. It's got a nifty little information centre where you can brush up on your astronomy facts, and buy a Parkes tea-towel for your Mum. And, yes, it's still in the middle of a sheep paddock.

4. Panama Canal, Panama

Cost = approx \$2000 AUD to sail through it. This feat of engineering and human endurance (or persistence rather) was first attempted by the French in 1880, but failed due to disease and insurmountable obstacles (such as a freakin huge mountain range). It wasn't until the Americans came along with an industrialised approach that it was completed in 1914. The canal consists of 3 locks up, three locks down and various artificial lakes. Over 30,000 people died in its construction making it possibly the most haunted canal in the world...

5. Millau Bridge, Tarn Valley, France

Cost = €7.50 to drive a standard car over



As well as being tall, long and quite pointy, this bridge is also quite 'chic'

looking (well it is in France!). The Millau Viaduct is 2km long and the highest bridge in the world. At over 300m high (taller than the even the Eiffel Tower) it sometimes sits above the cloud line. A nice way to arrive at the small town of Millau (famous for a 'glove museum' and paragliding).

6. Burj Kalifa, Dubai

Observation desk admission = 100 AED (≈34 AUD)



Now the tallest building in the world, it stands testament to the philosophy of 'anything you can do, I can do taller & more expensive'. Amidst the shiny sparkly back drop of extravagant Dubai, this 160 storey building houses both offices and homes. At 828m high, it makes you wonder if the gravitational pull is a little less at the top...

7. Large Hadron Collider (LHC), CERN, Genève, Switzerland
Tour cost = Free



Despite sparking fear in 2008 that it was going to create an earth-swallowing blackhole, the LHC plays an important part in conducting tests which scientists hope, will answer the questions of the universe. The LHC is the largest high-energy particle accelerator in the world and with a circumference of 27km, it crosses the Swiss-France border in four places. To accelerate particles to 99.9% of the speed of light, the 9300 magnets are super cooled to -271 C°. Cool.

Nyssa Muir, GradIEAust

WIE Committee Members:

Amanda Halley, Vanessa King, Meredith McQueen, Fiona Evershed, Erin Driscoll, Cassandra Blazely, Nyssa Muir and Amanda Larsen

Email: wietas@gmail.com

WIE Tasmania is sponsored by GHD



DR TIM GALE WINNER OF AN ENDEAVOUR EXECUTIVE AWARD



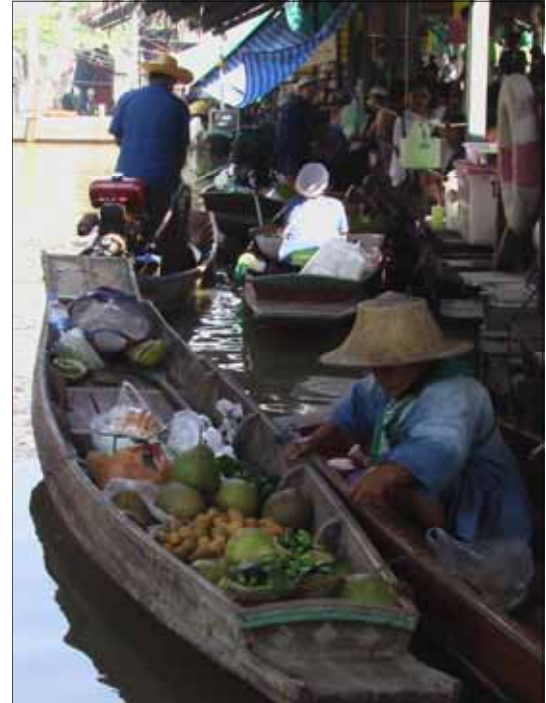
Dr Tim Gale, Leader, Biomedical Engineering Research Group at the School of Engineering, University of Tasmania has received an Endeavour Executive Award from the Federal Government to fund travel to Thailand for 3 months this summer (2010/11).

The time will be spent developing links and collaborative projects in Biomedical Engineering with Srinakharinwirot University (host institution) and also with other relevant Thai institutions (including Mahidol University and the Thai Biomedical Engineering Research Association).

Activities will include meeting with staff and postgraduates to discuss their teaching and research, giving talks on his teaching and research, and setting up collaborative projects.

Srinakharinwirot University has an active Biomedical Engineering program and is working closely with both Mahidol University and the Thai Biomedical Engineering Research Association to further Biomedical Engineering in Thailand.

His visit will add International links and enable joint projects between UTAS and institutions in Thailand. This will benefit Biomedical Engineering in both countries. Tim's visit will also cement strong individual links between himself and Biomedical Engineering researchers and practitioners in Thailand.



A photo taken by Tim in Thailand of the Floating Market in Bangkok

An Overview on Endeavour Awards:

The Endeavour Awards is the Australian Government's internationally competitive, merit-based scholarship program providing opportunities for citizens of the Asia-Pacific, Middle East, Europe and Americas to undertake study, research and professional development in Australia. Awards are also available for Australians to undertake study, research and professional development abroad. The Endeavour Awards aim to:

- Develop on-going educational, research and professional linkages between individuals, organisations and countries;
- Provide opportunities for high achieving individuals to increase their skills and enhance their global awareness;
- Contribute to Australia's position as a high quality education and training provider, and leader in research and innovation; and
- Increase the productivity of Australians through an international study, research or professional development experience.

Project Management Practice Course Module 3 – Managing People in Projects

This **two day** course brings focus to the aspects of people and team management in an project manager's role. People management is a key to project management success within engineering organisations as most project team members are not dedicated solely to a single project and report to other line or project managers.

This course presents in detail, for you to consider, practise, and subsequently implement, the key people management skills and processes.

Includes comprehensive workbook, template booklet, checklist and electronic templates.

This course follows on from module one and two of the Project Management Practice Course to further assist project managers in becoming more effective in managing people in projects. Completion of module one and two prior to undertaking this course is not mandatory, however, knowledge of module one (project management fundamentals) is assumed.



Target Audience For project managers wanting to become more effective in managing people in projects.

Course Outline

Individuals, groups and organisations

- PM issues/ principles
- Project organisation
- Establishing roles
- Generic roles
- Negotiating roles
- Role conflict

Recruiting and selecting project team members

- Roles and descriptions
- Capability determination
- Best 'fit'
- Team balance
- Decision Preference Analysis, Myers Briggs Type Indicator

Training and Developing individuals

- Specifying capability requirements
- Determining gaps
- Development interventions/ options
- Continuous learning
- The learning project

Motivating Individuals

- What motivates project team members
- Several motivation theories
- Short and long term strategies for getting results from people

Turning Groups into Teams

- Why teams?
- Definition
- Elements of team work

Building and Maintaining Project Teams

- Stages of team development
- Strategies for building teams
- Strategies for maintaining project teams

Leadership

- What is leadership?
- Directing behaviours
- Supporting behaviours
- Improving leadership style relevance
- Counselling/ problem solving techniques

Power and Politics in Project Management

- Facilitating and influencing within the organisation
- Building better project management through better sub-project management
- Empowerment

Course Objectives

At the end of the course participants will be able to:

- Identify and outline the key action areas for managing people in projects
- Define generic roles and negotiate specific roles for people in projects
- Successfully recruit and select team members
- Develop, organise and provide training and development to team members
- Outline strategies to apply when people motivation is necessary and remedial work is required to get performance back on track
- Outline strategies for building teams
- Provide appropriate leadership to the project team
- Implement strategies for improving influence and better understand power and politics

\$770 Tas Div Members
\$990 Non Members

14 & 15 July 2010
Salamanca Inn, Hobart
Download flyer at:
www.engineersaustralia.org.au/tasevents

Recognised for Continuing Professional Development (CPD) by Engineers Australia
Endorsed by the Australian Institute of Project Management (AIPM)
Registered Education Provider (R.E.P) with the Project Management Institute (PMI)
Certificate IV and Diploma of Project Management Accreditation



www.eeaust.com.au



EMINENT SPEAKER SERIES

Hosted By: College of Civil Engineering

Chris Dann

Senior Principal, URS Australia Pty Ltd
2009 Civil Engineer of the Year



DATE: Wednesday, 21 July 2010

TIME: 5.30 for 6.00pm Start

LOCATION: Centenary Lecture Theatre
University of Tasmania
Sandy Bay Campus

RSVP to: Catherine Reading on 6234 2228 or creading@engineersaustralia.org.au

“Delivery of a Dam – Value Through Innovation”

Hinze Dam is located near Nerang in South-east Queensland and has been the primary source of water supply to the Gold Coast. The dam was initially constructed in the mid 1970's and then raised in the mid 1980's to increase the water supply due to the continued population growth in the area. In 2006, during the period of extreme drought, the Gold Coast City Council decided to once again modify the dam. The Hinze Dam Alliance had to meet three key project objectives: flood mitigation, water supply & compliance with new regulatory guidelines. The project is to be completed in December 2010.

Industry and governments continue the debate on the advantages and issues with various project delivery mechanisms, in particular the Alliance delivery model. Chris' presentation will discuss specific examples of value delivered through the Hinze Dam Stage 3 Alliance model through innovative methods & design.

About the Speaker:

Christopher Dann has over 20 years Civil & geotechnical engineering experience on projects in Australia, Southeast Asia and Europe. He has especially been responsible for the design management of a range of large dam engineering projects including studies for new dams & design of upgrades and remedial works for existing water supply dams.

Due to his achievements & contribution to the Profession, Chris was awarded the Engineers Australia John Holland Civil Engineer of Year Award in 2009.

Contract Management

This **two day** course covers the contemporary legal frameworks and issues in which procurement and contract management operate.

Practical tools and techniques are presented and applied during the course to ensure that participants gain a better understanding of their own real contracts and how to achieve required outcomes, products and services.

Case studies are an integral part of the course and provide a practical application to the content set out in the participants workbook.

This course applies Contract Law to engineering and is in accordance with AS2124 and AS4000.



Target Audience For those who are seeking a better understanding of contract management and how it applies to engineering.

Course Outline

Introduction to the Legal System

An introduction to the legal framework in which contracts operate.

Contract Requirements

What is necessary to create a contract; What a contract isn't.

Issues Surrounding Contracts

Remedies if the contract does not work out as planned; Different terms of contracts; How to minimise the risk of your contract being unenforceable; Implied statutory warranties in contracts; Liquidated damages.

Negligence

Recent CASE STUDIES involving negligence in the engineering context; What we can do to minimise our exposure.

Disclosure in Contracting

Legal obligations regarding disclosure; What we can expect by way of disclosure from the other side; Ways to protect your interests.

Anti-Competitive Aspects of Contracting

Dangerous practices in relation to contracting including collusion; Bid rigging; Refusing to deal with particular businesses; Requirements to share infrastructure with competitors.

Outsourcing vs In-house

We will have a ROUND-TABLE DISCUSSION of current experiences with outsourcing in your industry; Has it worked well; Has it not; How to maximise the benefits of outsourcing.

Types of Contracts

Lump sum; Cost plus; Incentive based contracting; Alliance contracting; Review clauses of actual contracts; Standard form contracts including AS2124 and AS4000.

Intellectual Property

If a consultant is engaged to create a new design, who owns the intellectual property; EXAMPLES of contractual clauses

Tendering Processes

Different processes and evaluation techniques; Legal issues with tendering; Aspects of online tendering.

Latent Conditions and Extensions of Time

When are these claims justified?

26 & 27 July 2010
Salamanca Inn, Hobart
Download flyer at:
www.engineersaustralia.org.au/tasevents

\$770 Tas Div Members
\$990 Non Members

Recognised for Continuing Professional Development (CPD) by Engineers Australia (refer to EA CPD Guidelines)



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A Public Forum - All Welcome
Proudly held in conjunction with Australian Engineering Week

THE ROAD TOLL IN TASMANIA - MEASURES TO REDUCE IT

Tuesday, 3 August 2010

5.30 for 6.00pm to 7.30pm

**Centenary Lecture Theatre
University of Tasmania,
Churchill Avenue
Sandy Bay**

The format for the Forum is to have four speakers provide 5-10 minute presentations each on various Road Safety topics, followed by a question and answer panel discussion on road safety issues in Tasmania and how we can reduce the current frequency of serious injury and fatality crashes. Grant Atherton, Tasmania Division President will Chair the Forum.

The Speakers and topics for presentation are :

- Department of Infrastructure, Energy & Resources discussing historical statistics, education campaigns, legislative options, learnings from other authorities etc
- Royal Automobile Club of Tasmania discussing the road users/auto club perspective
- Keith Midson, a Traffic Engineer specialising in road safety from an engineering perspective
- Tasmania Police discussing road safety issues in particular behavioural, enforcement and forensic aspects.

This Forum is FREE of charge and anyone wishing to attend is more than welcome

RSVP to Catherine Reading 6234 2216 or creading@engineersaustralia.org.au

Safer Construction – Design Stage

This **one day** course presents a guide to best practice for safer construction with a specific focus on designing for safety as set out in the Engineers Australia Guide to Best Practice for Safer Construction.

A particular focus on design for safety and OHS in the construction industry for clients, designers and constructors.



11 August 2010
Salamanca Inn, Hobart
Download flyer at:
www.engineersaustralia.org.au/tasevents

Target Audience For engineers, architects, OHS personnel, safety managers, project/construction managers involved in the planning and design and construction of civil engineering infrastructure and building works.

This course is particularly valuable for design managers but will also be important to less experienced design professionals in introducing the concepts of designing for safety as set out in the Engineers Australia Guide to Best Practice for Safer Construction.

Introduction

Australian State and National OH&S legislation has introduced new safe design duties and legal obligations which each person who has control of the design of infrastructure projects, buildings, plant or of a system must comply with.

This means that designers and those responsible for designs must carry out detailed hazard identification, risk assessments and risk controls for the impact of designs on construction safety risk.

Designers are now legally obligated, and can be held accountable, for injuries arising from negligent design decisions affecting construction phase safety. Designers need to consider, by legislation, design elements to reduce safety risks at the construction stage.

To meet this need at the design phase of a project, Engineers Australia developed the Guide to Best Practice for Safer Construction – Design Stage. It is a much needed guide to explain these new legal duties that apply to designers, and what they need to do. The Guide provides practical advice on ways to meet these obligations, and to maximise the safety of construction projects, plant and systems at the design stage.

Participants will receive the comprehensive Guide and workbook, with additional tools and resources that can be used in the management and consideration of construction hazards and risk in the design phase of any project.

Course Outline

- Construction Industry Trends and Statistics
- OHS Hazard Identification (Practical Activity)
- The Guide to Best Practice for Safer Construction - The 'Safer Construction' process and principles will be presented and discussed with an emphasis on the Design Stage.
- Discussion on 'Best Practice' – Design Reviews and Constructability
- Hazard Identification and Risk Assessment in Design (Practical Activity)

Course Objectives

At the end of the course participants will be able to:

- Understand the new OH&S legislation and legal obligations of all those responsible for designs.
- Be familiar with the Safer Construction principle of designing for construction OHS.
- Gain an understanding of risk management principles and practices as they relate to designing for construction workers' OHS.
- Gain an understanding of the process of hazard identification, risk assessment, and risk control, in the context of construction design.
- Gain an understanding of the practical benefits, in terms of OHS risk elimination and/or reduction, that can be achieved through the application of OHS risk management in construction design.
- Know what new methods and approaches need to be implemented at the design phase of a project and its completion.

\$550 Tas Div Members
\$660 Non Members

A new must-do course for designers and those responsible for design.
Learn how to meet your new Legal OH&S Responsibilities for Safer Construction.

Recognised for Continuing Professional Development (CPD) by Engineers Australia (refer to EA CPD Guidelines)

CALENDAR 2010

For up to date information on these and other events, please visit www.engineersaustralia.org.au/tasevents

JULY

Tuesday 6 - CHARTERED STATUS PRESENTATION - HOBART - 5.30pm - Royal Engineers Building, 2 Davey Street - RSVP to Catherine Reading on 6234 2228 or creading@engineersaustralia.org.au (Refer to page 11)

Wednesday 7 - CHARTERED STATUS PRESENTATION - LAUNCESTON - 5.30pm - The Mercure Hotel, 3 Earl Street - RSVP to Catherine Reading on 6234 2228 or creading@engineersaustralia.org.au (Refer to page 11)

SCIENCE & ENGINEERING CHALLENGES

Wednesday 7 to Friday 9 - HOBART - Moonah Sports Centre

Monday 12 & Tuesday 13 - DEVONPORT - Devonport Sport Centre -

Thursday 15 & Friday 16 - LAUNCESTON - Elphin Sports Centre

Volunteers needed to help supervise activities at all events, if you can help, please contact Louise on 6226 1797 or louise.trenerry@utas.edu.au

Tuesday 13 - Northern Year of Engineering Leadership Dinner & Tasmanian Infrastructure Report Card Launch - 6.00 for 6.30pm - Deloraine Hotel, Emu Bay Road - \$15 EA members or \$35 Non Members - RSVP to Catherine Reading on 6234 2228 or creading@engineersaustralia.org.au (Refer to page 9)

Wednesday 14 & Thursday 15 - EEA 2 DAY SHORT COURSE - Project Management - Module 3 - 8.30am to 5.00pm each day - Salamanca Inn - **HOBART - \$770 (EA Members)** - \$990.00 (Non Members) - Download registration form at www.engineersaustralia.org.au/tasevents (Refer to page 15)

Wednesday 21 - CIVIL COLLEGE EMINENT SPEAKER - Delivery of a Dam - Value through Innovation - Chris Dann (2009 Civil Engineer of the Year) - 5.30 for 6.00pm - Centenary Lecture Theatre, University of Tasmania, Churchill Avenue, Sandy Bay - RSVP to Catherine Reading on 6234 2228 or creading@engineersaustralia.org.au (Refer to page 16)

Monday 26 & Tuesday 27 - EEA 2 DAY SHORT COURSE - Contract Management - 8.30am to 5.00pm each day - Salamanca Inn - **HOBART - \$770 (EA Members)** - \$990.00 (Non Members) - Download registration form at www.engineersaustralia.org.au/tasevents (Refer to page 17)

AUGUST

Tuesday 3 - ROAD SAFETY PUBLIC FORUM - 5.30 for 6.00pm - Centenary Lecture Theatre, University of Tasmania, Churchill Avenue, Sandy Bay (Refer to page 18)

Wednesday 11 - EEA 1 DAY SHORT COURSE - Safer Construction - 8.30am to 5.00pm - Salamanca Inn - **HOBART - \$550 (EA Members)** - \$660.00 (Non Members) - Download registration form at www.engineersaustralia.org.au/tasevents (Refer to page 19)

Friday 13 - SCIENCE & ENGINEERING CHALLENGE - GRAND CHALLENGE - LAUNCESTON - Elphin Sports Centre

Tuesday 17 - CELM - HOBART - Leadership & Sustainability - John Pitt (Pitt & Sherry) - 12.15 for 12.30pm - Old Woolstore Theatre, 1 Macquarie Street

Wednesday 18 & Thursday 19 - EEA 2 DAY SHORT COURSE - Project Management - Module 4 - 8.30am to 5.00pm each day - Salamanca Inn - **HOBART - \$770 (EA Members)** - \$990.00 (Non Members)

Contract Management Training

August - November 2010

Practical courses presented by experienced industry practitioners that can answer your questions

Courses provide CPD points consistent with Engineers Australia guidelines

AUGUST	17-18	Hobart	Contract Supervisor's & Inspector's Course
	19-20	Hobart	Contract Management for Superintendents
NOVEMBER	8	Adelaide	Contract Management Fundamentals
	10-11	Adelaide	Contract Supervisor's & Inspector's Course
	12	Adelaide	Preparing Scopes of Work & Specifications
	23	Melbourne	Contract Management Fundamentals
	24-25	Melbourne	Advanced Contract Management for Superintendents
26	Melbourne	Decision Making and Writing for Superintendents	

Discounts apply to members of Engineers Australia



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