EESA
THE ELECTRIC ENERGY SOCIETY OF AUSTRALIA

ENGINEERS AUSTRALIA

The Electric Energy Society of Australia

www.eesa.asn.au

A Word from your President

Can the new Standards Australia model deliver?

In April this year, Standards Australia introduced a new business model. The new model involves a new strategic direction that involves a "Net Benefit Assessment" to every project to drive greater benefits.

Standards have a most important role to play in the electricity industry and beyond. Standards Australia enjoys a monopoly like position as the peak standards body in Australia. This position is supported by government and is established by special relationships with other international standards bodies like the IEC.

For users of standards like me, it is very convenient and efficient to simply call up a standard when specifying transformers, circuit breakers, harmonic limits in power systems or other items. The value of a standard to the economy and the country is not necessarily related to its commercial value. While the sales volume of a standard may be an indicator of the importance of that standard, many standards with very low sales potential are also of high importance. For example, the wiring rules (AS3000) is a most important standard and with each edition, every electrical contractor in the country will purchase a copy ensuring its commercial success. In contrast, the market for standards associated with substation earthing and other safety related standards are very small but have a large bearing on national safety outcomes. If these "low volume" standards did not exist, many large and small organisations will be forced to duplicate effort and develop their own individual standards or look overseas for alternates that may not be appropriate for Australian conditions. When I walk in to a substation yard or when the public have access to a substation fence, I like to know that step and touch potentials have been dealt with in terms of the relevant standards.

Has the result of the split up of Standards Australia with SAI Global left insufficient resources to produce the full range of standards the country needs? Are too little of the standards sales revenues being returned to the development of new standards and maintenance of old standards? Will "uneconomic" standards be jettisoned or will they be forced onto organisations like the Energy Networks Association, Engineers Australia or the EESA? Will the new system force the introduction of international standards that are not suited to Australian conditions? Under the new business model, has Standards Australia retained enough technical and engineering capacity to function effectively in the standards role? These are the key questions in my mind.

The challenge for the new model is to successfully deliver the standards that Australia needs. In my view Standards Australia should be given the chance to make the new model work. If the new system can't deliver, I have no doubt that government support will wane and alternatives will evolve.

Dr Robert Barr
EESA National President

bulletin 4/08 August -September 2008

Bulletin 5, October - November 2008

Please email submissions by
10 October 2008 to the Bulletin Editor,
Patrick McMullan on
pmcmullan@energy.com.au

In this issue...

The Electric Energy Society of Australia

Call for Lost papers

Can you help locate lost papers for the 80 year compilation of conference and technical papers CD?

All papers and proceedings are missing from 1924, 1925, 1926, 1927, 1928.

The following papers are missing from the current 10 Year CD

Government Pricing Tribunal	E.	Groom	1993	01
Competitive Market Issues in the Electricity Supply Industry	A.	Gillespie	1994	01
Government Pricing Tribunal	T.	Parry	1995	01
Training of Engineers	G.	Lucas	1995	11
New Energy Environment	Ian	Woodward	1998	01
Opportunities for Multi Utilities	Paul	Broad	1998	02
Privatisation in Practice	Mike	Swanston	1998	03
Micro SCADA	Ian	Young	1998	14
Condition Based Maintenance and Diagnostics in Circuit Breakers	David	Roby	2000	13
Protecting Customers' Installations from Fast Transients	N.	Tillery	2000	17
Meeting the 2% Renewable Energy Target	Rick	Brazzale	2000	25
Full Retail Service with Multi Fuel Energy Sources	Patricia	Boyce	2000	28
Call Centres – Good, Speedy Customer Service	Wayne	Croker	2000	29
Crisis: what crisis?	M.	Mitchelson	2002	03
Hypothetical—crisis management	M.	Mitchelson	2002	04
Power quality—the South Australian approach	Bob	Burgstad	2002	10
Superconductors	T.	Beales	2002	13
Brightstar Environmental and SWERF®	C.	Stapleton	2002	14
Solar energy research at ANU	A.	Blakers	2002	15
Full retail competition	P.	Cunningham	2002	16
HVDC Light, the new technology	M.	Wyckmans	2002	18
Putting cables underground—the distributors' view	R.	McNally	2002	20
Energy and climate change	P.	Palmer	2002	22
Solar tower—prospects for large-scale solar energy, The	M.	Thomas	2002	23
Hasn't the weather been strange lately?	G.	Pearman	2002	27
Electricity (Supply Standards and System Safety) Regulation for Western Australia	D.	Ayre	2002	28
NSW guideline for enclosed spaces in NSW electricity networks	T.	Lampard	2002	29
Electricity distribution network reliability. Benefiting customers … through asset management	P.	Grant	2002	30
Power quality—customer perspectives and the utility interface	I.	McMichael	2002	31
Quality of supply: who wins? who loses?	A.	Massoud	2002	32
Future of electricity distribution and retailing business - evidence from abroad	F.	Sioshansi	2003	01

Please email peter@dulhunty.com any missing papers

The Future of Industrial Action?: (The Guardian)

British newspaper The Guardian reported on 10 May that the industrial disputes of the future may take place on-line rather than on a picket line!

Last year, in a dispute over pay, workers in an international computer company are reported to have organised a picket outside their company headquarters. They marched and waved banners, gate-crashed a staff meeting and forced the company to close its business centre to visitors. The protest, by more than 9,000 workers and 1,850 supporters from 30 countries, was carried out in the virtual environment Second Life, where the company operates a "corporate campus".

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EESA South Australia Chapter News

Technical Program

A most successful and well attended seminar was held on Wednesday 8 July on the topic "Forensic Investigation of Failures". The presenter was Russell Lee, a forensic electrical and mechanical engineer who has a wide academic background, including a Masters Degree in Technology with Mechanical and Electrical majors and a Graduate Certificate in Fire Investigation.

Russell has a wealth of experience working across a number of industries, including the power and gas industries, in Australia, New Zealand, S.E. Asia and the Pacific. Russell has his own forensic consulting engineering practice working from Melbourne.

This seminar addressed the subject of large industrial failures and risk mitigation factors. Russell used a number of well illustrated case studies and shared his experiences on investigations to determine the origin and cause of failures, fires, and accidents in diverse industrial environments. Case studies included the Moomba explosion and fire of 1 January 2004, a number of recent transformer and generator failures, and several switchboard explosions and fires.

Russell's practical advice on maintenance management and comments on due diligence of electrical assets were well received by those attending this seminar.

Sustainable Engineering Initiative

Bill Harrod of Siemens, Frank Crisci of ETSA Utilities and Martyn Pearce of AGL Torrens Island Power Station have formed an EESA sub committee to investigate ways of promoting the electrical power industry amongst young people in South Australia. The sub committee has assisted in promotion of the API bursary at the University of Adelaide and Uni SA for the last two years. There were an encouragingly large number of applications. Currently the sub committee is working with the API, Adelaide University and ElectraNet on the bursary selection process.
The EESA sub committee will continue to investigate other ways to promote the power industry together with local industry and the tertiary institutions.

Martyn Pearce

Call for Nominations

Calling for Nominations for the IREE Neville Thiele Award
due 30th September 2008

The Information, Telecommunications and Electronic Engineering (ITEE) College of Engineers Australia would like to inform you that entries are now open for the 2008 IREE Neville Thiele Award.

The IREE Neville Thiele Award is the most prestigious award of the ITEE College of Engineers Australia. It is named in memory of The Institution of Radio and Electronic Engineers (IREE) and in honour of Mr. A.N. (Neville) Thiele OAM. The IREE represented the profession of radio and electronic engineering in Australia for many years, while Neville Thiele is an outstanding Australian Electronics Engineer, former President of the IREE and a world renowned expert on audio engineering standards and the design of loudspeakers.

Eligibility
Are you involved in IT engineering, less than 41 years of age and would like $10,000?

The 2008 IREE Neville Thiele Award

Recognising eminence in the disciplines of Information, Telecommunications and Electronics Engineering.

2008 Nominations
Nominations for the 2008 IREE Neville Thiele Award open on 1 August and close on 30 September 2008.

For Selection Criteria please go to the ENGINEERS AUSTRALIA website (Learned Groups, Colleges, ITEE College, Awards and Competitions).

EESA NSW Events

Energy NSW 2008.....The [R]Evolution in Networks

NSW Chapter Annual Conference & Trade Exhibition
29 to 31 October, Powerhouse Museum, Sydney

A major vehicle for the professional development of our NSW members is our annual state conference held in Sydney on the 30, 31 st October 2008. The Conference this year as with all previous EESA Conferences, focuses on the Electricity Supply Industry matters that are currently topical in the industry. This year the conference is being held in the PowerHouse Museum which is central to the CBD. This is almost the only conference that is exclusively focused on electricity supply, touching mainly on areas of distribution and transmission engineering and associated engineering philosophies. The theme is the [R]Evolution in Networks and to date we have George Maltabarow , MD of Energy Australia, Kevin Murray , CEO of TransGrid , Mark Miller GM/Operations of NEMMCO and Greg Skelton CEO of Alpine Energy, NZ as keynote presenters.

Following these keynote presenters the conference has dedicated topical sessions which include power quality, intelligent grids and smart metering, descriptions of some current large network engineering projects , embedded generation developments , asset management issues of earthing and substation equipment , developments in overhead lines and cable standards and designs, an update on safety and communications and it finishes with a spirited panel debate on the topic of the " The renewables myth - what and when can it deliver?"

Other conferences whilst useful to supply engineers often cover a much broader spectrum than matters uniquely specific to electricity supply. Thus the EESA NSW conference provides the most concentrated focus, which allows participants to keep abreast of the matters which preoccupy the supply industry each year. For young engineers and other technical specialists, at the start of their career in electricity supply, this association has been a source of information, encouragement and guidance for over 80 years in New South Wales.

A further feature of this conference will be the launch of the EESA's 80 year compilation CD of conference and technical papers from its historical beginnings. This complements the previously developed 10 year CD covering EESA activities in the 90's This will be an important reference tool and 2008 EESA NSW conference participants will be entitled to a special discount when they purchase either or both of the CD's.

To download the conference brochure please go to www.eesa.asn.au or contact Helen Mackenzie on eesa@tmm.com.au or tel: 02 9810 7322

Patrick McMullan

Alternate Technologies for Power Transformers in EnergyAustralia
24 September 2008

EESA is holding a short free of charge seminar on Wednesday 24 September from 3.30 - 5.30pm at the Engineers Australia Newcastle Division Auditorium, 122 Parry Street, Newcastle West

The power transformer technologies to be discussed include "dry type" transformers, large power transformers filled with alternate insulating fluids and large Gas Insulated Transformers .The presenters are Nemet Nikpour and Peter Cole both Senior Engineers from Energy Australia who have a wealth of experience in transformer design and operation .The presentations will also include photographs and comments on a recent trip overseas where both presenters had the opportunity to visit major transformer manufacturers and talk to their transformer designers.

This seminar is for anyone who is involved with or has an interest in transformer technology and the alternate technologies that are being adopted within the electricity supply industry.

RSVP: 22 September 2008

To register please ring Katrina Baker on telephone 02 4926 4440 or send email to newcastle@engineersaustralia.org.au with name and contact details.

Wollongong University Hosting International Power Quality Conference
28 - 1 October 2008

The 13th IEEE International Conference on Harmonics and Quality of Power (ICHQP) will be held in Wollongong, New South Wales, Australia, from 28th September to 1st October, 2008. This Conference is one of the premier international conferences in this field. The Conference strives to present research work of academic and technical excellence in the area of power quality. The Conference will feature special sessions and tutorials by world-leading experts.
The selection of Wollongong University as the venue for the ICHQP 2008 conference is a major achievement for the Integral Energy Power Quality and Reliability Centre and follows the most recent conferences held in Portugal, USA and Brazil.

For more information go to www.ichqp2008.org.au .

EESA International Power Quality Seminar
2 October 2008

The EESA has secured a number of international Power Quality experts to present at a one day seminar to be in Sydney on Thursday 2nd October 2008. This seminar will follow the International Conference on Harmonics and Quality of Power (ICHQP) being held at Wollongong University . Speakers will include Prof. Paulo Ribeiro (Calvin College USA), Herivelto de Souza Bronzeado (CHESF Brazil), Robert Koch (ESKOM South Africa) and Ashok K Parsotam (VECTOR Limited, New Zealand). Topics will include “An International Perspective on Power Quality from Brazil and USA” and “Power Quality in a Competitive Market”.

Put this event in your diary now - a flyer with more details is attached to the email.
For more detail check www.eesa.asn.au

NSW AGM
2 October 2008

The NSW AGM will be held following the EESA Power Quality Seminar on Thursday 2nd October.
Venue: The Sydney Mechanics School of Arts, Level 1, 280 Pitts Street, Sydney
Time: 3.30pm

News and Issues from around the Industry...

Alinta LGA Ltd is now Jemena Ltd

After launching its new brand recently Alinta LGA Ltd is now trading as Jemena Ltd. Jemena – an aboriginal word meaning to hear, to listen and to think – was chosen because it represents how the company does business.

This new brand represents a new beginning for Jemena, renowned for its high quality gas, water and electricity infrastructure and contracted works services. Amongst other services, the company manages Sydney’s gas distribution network and Melbourne’s United Energy and Multinet Gas distribution networks.

Jemena will use its existing capability – and the financial strength of its new owner Singapore Power – to be the leader in infrastructure management and development in Australia and overseas.

Jemena’s CEO Peter Magarry said: “Our new brand, Jemena, represents our unique capability as an asset owner, manager, developer and service provider to meet the vital infrastructure challenges of the 21st Century. In order to provide innovative, creative and cost-effective solutions for our clients, we need to hear, listen and think. Our new tagline – ‘Vital Service. Vital Planet.’ – reflects the fact millions of Australians rely on us for gas and electricity and our role to minimise our impact on the environment,” Mr Magarry said.

While Jemena will provide infrastructure solutions to various industries, it will continue to deliver quality gas and electricity transmission and distribution services.

Last year, Alinta Ltd., from which the Alinta East business was formed, was sold to a consortium of Singapore Power International, Babcock and Brown Power and Babcock and Brown Infrastructure. Singapore Power International has decided to rename those assets and businesses acquired by it to bring them under the Jemena brand.

For further information about Jemena’s brand, visit www.jemena.com.au

UK's Renewable Strategy Receives Mixed Reviews (Source: The EEInformer produced by Perry Sioshansi)

Under European Union regulations, member states are to meet 15% of their overall energy requirements from renewable resources by 2020. The easiest way to achieve this goal is to covert a significant percentage of electricity generation to non-fossil energy sources since other sectors do not offer as much flexibility. UK is among the laggards within the EU in reaching this target, and many do not see how, short of a miracle, such a target can be achieved.

In a companion piece (26 June 08), the UK Evening Standard ridiculed the proposed plan not merely as impossible to achieve, but unjustified for its lofty price tag. On the impracticality, the proposal would require building offshore wind turbines "at a rate of more than two every working day between now and 2020," not impossible but hard to do. Regarding the costs, the Standard says, "For the sum of £100 billion which the Government plans to spend on the new turbines, we could buy 37 'carbon-free' nuclear power stations at current prices, permanently supplying enough electricity to cover all our current needs."

But setting these aside, the Standard sees the new infatuation with renewables to be misplaced. It points out that, "Within seven years, due to the obsolescence of the existing nuclear plants (which still supply 20% of our electricity) and the forced closure of 9 more coal and oil-fired plants under new EU anti-pollution rules, we stand to lose well over a third of the capacity we need to meet peak demand."

The debate in the UK mirrors that of the US, only on a smaller scale. The problems are similar, renewables are currently in vogue and seem to offer an easy way out. The parallels with the Gore proposal and the Pickens plan currently being debated in the USA are striking.

Engineer Shortage Highlighted (Source: Engineers Australia)

SYDNEY, Aug 6 - Australia is facing an ever increasing shortage of qualified engineers with the country already falling 28,000 short, according to Engineering Australia chief executive Peter Taylor.

He says the number of engineers for every $100 million of engineering, construction and building work halved from 600 to 300 in the period 2001-2006. By extrapolating those results and consulting with major employers, Mr Taylor estimates Australia has a shortfall of 28,000 engineers.

He told the National Press Club in August that "Whichever way we look at the numbers, we come inevitably to the conclusion that Australia, like many other developed countries, has taken its eye off the engineering ball,"

The shortfall of engineers looks set to worsen with heightened activity in the resources sector, increased government spending on infrastructure projects and the effects of climate change putting more pressure on the already overstretched sector.

Mr Taylor said the problem started at school with fewer than 12 per cent of year 12 students studying advanced maths.

"Radical action is needed to improve the science, engineering, technology and mathematical literacy of students if we are to increase the numbers of domestically trained engineers," he said.

"If governments continue to ignore the evidence, the current shortage of 28,000 engineers will more than double in the next 10 years or so," he said. "The result will be that infrastructure programs promised by governments will not be delivered, Australia's desperate water situation will remain unaddressed and engineering solutions to combat the effects of climate change will not be developed.

You're Never Too Young to Think About Safe Work (Source: WorkSafe Victoria)

Six year old Christian Pouw has become the youngest ever entrant in WorkSafe Victoria's Safe Work Awards, having devised a procedure to prevent fellow students getting injured at Leongatha's St Laurence's Primary School. Mr Pouw wrote a proposal to principal Robyn Halliwell whereby arrows indicate the direction pupils should take along corridors and staircases. WorkSafe Victoria executive director John Merritt said that Mr Pouw's initiative proved that "if a six-year-old could improve safety, anyone could". Mr Merritt further observed that Mr Pouw had essentially undertaken risk identification, applied a safety solution to manage the problem, and engaged management and stakeholders in a collaborative effort to improve safety. According to Mr Merritt, "Christian ... set an example for adult employers, managers and workers ... If more people applied this approach in Victorian workplaces fewer people would be hurt or killed".