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The Journal of the NZ Institute
Of
Health Estate and Engineering
Management

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Cover Photo - The new regional hospital being completed on the Wellington Hospital campus will be ready for opening soon.

The health and viability of any organization depends on good communications. Our objective is to produce a good quality health engineering magazine. The magazine should inform readers, it should provide a forum for discussion, encourage interest in all aspects of the technical side of health facility management in its widest sense.

noise contribution from other sources such as traffic. This would mean 42 dBA Leq is available for air-conditioning noise. With a prudent allowance of 5 dB safety for on-site variations this leaves a design criteria of 37 – 42 dBA Leq - equivalent to approximately PNC 32 – 37. This is lower than what would often be specified for office floors (ie typically up to PNC 43) and may be difficult to achieve with traditional office fan coil units. As noted earlier, noise levels at the lower end of the range may also be too low for adequate masking in open plan areas.

In most instances achieving the Green Star criteria would be a desirable outcome but review of the criteria would need to be done on a case by case basis to ensure this is in the best interest of the developer and occupants. In some instances the additional noise control required to ensure the criteria is achieved would not be cost effective and may contribute to poor levels of privacy.

OVERALL DESIGN

With the many issues and criteria involved there are no easy pre-packaged solutions to environmentally sustainable design. Solutions need to be tailored to the individual problem with buildings and services design suitable for the local environment.

The best design will result from an open collaboration within the design team with strategies developed early in the design process to address key issues. With this approach it is hoped that the buildings of the future will be easy on the ear as well as the environment. ■

This article was reprinted with the kind permission from IRHACE, the Industry Journal for the NZ Refrigeration, Heating Ventilation & Airconditioning Industries

IHEA ANZEX DELEGATE

LEN MUMME, IHEA – WESTERN AUSTRALIA BRANCH

Len is the Manager, Physical Resources for the Western Australia Country Health Service (WACHS) - Wheatbelt Region. Based at Narrogin Regional Hospital, 200 kilometres south east of Perth, Len manages the engineering services in Wheatbelt – Southern, a sub-region consisting of 1 regional hospital (49 beds), 6 district hospitals (8 - 14 beds) and 3 health (Nursing Posts) centres. He has held the position for over ten years.

The Wheatbelt Health region covers an area of 154,000 square kilometres and incorporates three regional 50 bed hospitals, 21 district hospitals (of 8 – 14 beds) and 8 health centres (nursing posts).

Prior to his current position, Len was a shift engineer for nine years at Fremantle Hospital, Western Australia. Fremantle Hospital is a 350 bed tertiary hospital, a major hospital in the South Metropolitan Health Service.

Before stepping into the shift engineer's position, Len was the Service Engineer for Voith Australia, a German-based company manufacturing and supplying mechanical power transmission equipment – fluid couplings, gearboxes, etc for the mining, manufacturing, transport and power generation industries throughout Australia, New Zealand and Papua New Guinea.

Before commencing employment with Voith Australia, Len served in the Royal Australian Navy for 20 years in marine engineering – from mechanical apprenticeship training through to being a commissioned engineer officer, serving sea and shore postings in Australia and overseas.

Outside of work activities, Len and his wife Faye's interests are in family – including visiting their four grand children in Perth, and sport – playing squash, swimming and the occasional game of golf. As well as bush walking, with some wildflower photography.

Clinical Engineering News

National Conference - The GE training day prior to the two days of the Conference will provide an opportunity to explore a number of IT aspects and in the afternoon Anaesthesia and Ultrasound. If there are adequate registrations it is also the intention to run the Biomed EST refresher on the Saturday morning.

National Clinical Engineering Day - There has been significant interest in having a day each year to assist with raising the profile of Clinical Engineering. Auckland Hospital recently ran a successful awareness day and the intention is to have a nationwide activity in the middle of each year.

Electricity Regulations - Energy Safety have recently advised that the next release of the Electricity Regulations will most likely be in July 2009. The Minister has advised that in October or November this year there will be release of a draft for comment. Following a review of the Electricity Act all worker safety related regulations will transfer to the Department of Labour. Energy Safety will be responsible for public safety. In the medical environment ES will continue to have responsibility.

DHBNZ National Procurement - The most recent managers meeting provided an opportunity to clarify national requirements for any item that is being introduced to a Hospital for clinical trial. Northland, Auckland, Waikato and Canterbury, as part of the ambulatory syringe pump national tender, have been working with DHBNZ to develop criteria for clinical product introduction and subsequent technical evaluation.

Recalls and Alerts - To assist with developing a better understanding of any issues relating to product recalls and alerts Medsafe have been approached with the wish to develop a closer working relationship. Subsequent managers meeting will provide an opportunity to further develop that relationship.

Accreditation - The new Equip 4 standards will require each Clinical Engineering Department to focus a little more closely on the required outcomes from the standards. The move to Equip 4 appears to move the emphasis from 'ticking the boxes' to a more performance based approach.

EWRB Registration Categories - The NZIHEEM and some Clinical Engineering departments have made submissions to the EWRB to support the introduction of a specialist Biomed registration as an extension of the suggested EST categories. This is a logical progression from the approved Biomed EST refresher.

Standards Development Standards Australia recently came to New Zealand to outline their restructuring activity and discuss the new business model that they have in place for standards development. As an outcome of the review of standards development by the Productivity Commission, Standards Australia now require a net Benefit Assessment to be undertaken before any project can proceed. A successful assessment may then provide a number of pathways for a standard to be developed. More information is available at:
http://www.standards.org.au/downloads/NetBenefit_Proposal_Form_Pathways.pdf

The joint Australia and New Zealand standards development process requires some further thought, in light of the new model, to ensure it continues to provide a successful outcome.

NZIHEEM Engineer/Biomed of the Year

This document is a draft proposal for BOC Medical to provide sponsorship of the award for the Hospital Engineer/Biomed of the year.

Scope of Award

The award shall be open to Facilities Engineers and Biomedics who are full time employed in providing services to Hospitals in New Zealand. The award will be to provide recognition for an individual member who meets or exceeds the criteria outlined below.

The Award

Travel and accommodation to the value of \$2,000 NZD to attend the IHEA Australian conference in 2003. A suitable framed certificate will also be provided. There should also be two highly commended runners up who will receive a framed certificate. BOC Medical proposes that sponsorship be for an initial period of 5 years and we reserve the right to review the award at this time.

Nominations

Nominations shall be from financial members of the NZIHEEM.
Nominations shall be at least a 500 word description of the environment, performance and influence the candidate's project has had on the organisation and its environment.
Hard statistical evidence will be highly regarded by the judges.

Criteria for judging purposes

The individual shall have exhibited special qualities within the field of their work and the organisation they are employed by.
This should include such things as;

- 1) Leadership
- 2) Technical excellence
- 3) Facilitated a project which has benefited the organisation they are employed by
- 4) Acknowledged by their peers
- 5) Initiative

It would be unlikely that the same candidate would receive the award in successive years unless they did something most outstanding when compared to other nominations.

Judging

The judging should be carried out by a sub committee of the executive and a BOC Medical nominated representative.

Presentation

The awards should be presented at the annual conference of the NZIHEEM.

Reporting Back

The winner of the award will be required to report back to the NZIHEEM members what they have learnt from attendance of the IHEA conference.

This could include such things as new methods and concepts or on projects which may be of value to other members and their organisations.

Announcement

BOC Medical would like to be able to announce the new award at the conference dinner on Friday night subject to acceptance and agreement on criteria and the overall concept.



63rd Annual Conference

“Our role in shaping the future”

6th & 7th November 2008

Napier War Memorial Convention Centre
48 Marine Parade
Napier



Honeywell



WelchAllyn

Advancing Frontline Care™

CHEMTRONICS
BIOMEDICAL ENGINEERING



The Conference

This conference will be of interest to those in the health sector including:

- ◆ facilities managers
- ◆ maintenance managers
- ◆ maintenance contractors
- ◆ services engineers
- ◆ biomedical engineers
- ◆ engineering consultants
- ◆ property managers
- ◆ asset managers



This years conference theme is:
"Our role in shaping the future"

The aim of the conference is to:

- ◆ Meet and share information with colleagues
- ◆ Provide a wide range of topics to enhance your understanding of particular elements of the health sector
- ◆ Deliver well facilitated specific technical topics

Once again a full and exciting programme has been organised for delegates over the two days of the conference, with an additional dedicated biomed training day running on Wednesday 5 November.

We do not know when the conference will return to the Hawke's Bay so delegates from out of town, take the opportunity to spend the weekend in the bay.



Trade night COVIDIEN

The Covidien (currently trading as Tyco Healthcare) trade night will be held on Thursday evening giving delegates the opportunity to view products and services of interest to the health industry. Food and refreshments will be served during the evening. Remember to bring plenty of business cards for the prize draws.

The venue

The Napier War Memorial Conference Centre is ideally located on the beach



of Napier's famous Marine Parade and directly opposite the Scenic Circle Te Pania Hotel. Special rates have been negotiated for our conference and room bookings must be made directly with Scenic Circle Te Pania Hotel.

The hotel has offered a special conference rate of \$131 + GST.

Phone 06 833 7733 or email:

te.pania@scenic-circle.co.nz

Partners programme

A programme has been arranged for the partners which will provide shopping, sightseeing and a variety of 'Best of the Bay' activities for you to enjoy in a relaxed manner.



Contact details:

Please return registration form and payment no later than 11 October to:

Paul McCartney
3 Alan Styles Place
Greenmeadows
Napier 4112

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Saturday 20th September 2008

After a pleasant spring drive from Christchurch north to Kaikoura, nine members and three wives from Christchurch, Ashburton and Timaru assembled in the lounge in the nurses hostel at Kaikoura Hospital. The compulsory group photo was taken and then the wives ventured to the surroundings of Kaikoura to explore and shop.

The remaining members carried out the business of the day working on agenda topics such as, executive update, Conference 2008, ANZEX, BOC Biomed/Engineer nominations, Standards NZ update and so forth.

It appears that we will be struggling with getting a full compliment of elected members onto the Executive. This is a little disappointing, given how we should be raising more of a voice in the health sector on how hospitals should be maintained and built. No one should know better than those actually doing the work? Without a strong and active executive how can we make ourselves heard!

We had feedback from all the members on what is happening in each area and there is certainly not much free time at the moment for most people.

Once we had completed afternoon tea, Adrienne, who is the Clinical Nurse Manager at Kaikoura, gave a rundown of her nursing experience from the many years she has been nursing.

This covered life as a trainee and being under the command of a matron, through to modern day systems and dealing with the isolation factor that comes with rural nursing.

After that I gave a brief rundown of the ANZEX trip that I had recently completed with my wife Val and then the meeting concluded. A number of the members headed back to Christchurch and Timaru, while several stayed on enjoying a delicious meal and heading home on the Sunday.

Russell Dickson was unable to attend this meeting due to other commitments as with the members from Greymouth. We are hoping to have the next meeting in Greymouth possibly in March 2009. Meantime we are all getting ready for Conference in Napier very soon.

Brendon Groufsky.



effect, if any, it had on the employer's business. In the case of *Nacey v. Arbutus Society for Children*, the plaintiff, Nacey, had been dismissed for cause when she revealed the existence of an intimate relationship between two staff members through an anonymous communication to members of the public. The British Columbia Superior Court found that Nacey's public communication regarding a sensitive internal matter was conduct that was incompatible with her duties and prejudicial to the employer's business. Employers may rely on the principles set out in the *Arthurs* case in controlling employee communications on the Internet. However, all employers are well advised to implement employee policies regarding the disclosure of confidential information, Internet use and employee Web logs.

ASSUME ACCOUNTABILITY

Given the vastness of the Internet, it is difficult to conceive how potential litigants

would even become aware of what was being said about them in personal blogs, chat rooms and other forums of personal expression. Bloggers and others who communicate via open Internet forums should assume that whomever they are writing about will see what has been written and that they will be held legally accountable. Accordingly, people who publish on the Internet need to be aware of the potential liabilities for defamation, unlawful disclosure of confidential information and conduct incompatible with their employment. Conversely, people who discover a false and/or damaging statement about themselves or their businesses on the Internet can take heart that, while the law regarding the Internet is still maturing, there are remedies available.

P. Christopher Lloyd is a partner with Aird & Berlis LLP.



Wellington's new hospital. Another view of the almost completed new building.

body of the pump does not need to be moved, the job can be carried out by a single engineer, instead of a small team. A seal can be replaced in minutes, rather than hours, contributing to maximum uptime of HVAC systems. In addition, as lifting equipment is not needed, there are fewer health and safety implications for building services staff. Armstrong assembled the pump package at its factory and it was skid mounted for delivery to site (Fig. 4).

Advanced control boosts energy efficiency

With the cost of electricity and gas soaring, energy efficiency has become a key concern for all organisations. Here too, new thinking applied to the boiler room can have a major impact.

Previously, keeping energy consumption down relied on individual HVAC system components being energy efficient. This has brought benefits, but there are also limitations to what can be achieved. More recently, advanced microprocessor control of HVAC systems has made huge strides - by enabling the energy efficiency of the system as a whole to be improved. Harnessing the energy efficiency capabilities of all-variable speed systems (where pumps and other equipment can be phased in or out to meet demand), these control systems can provide far more sophisticated management of load with the minimum power consumption. Hartman Loop control methodology, for example, achieves optimal power relationships across the whole system. Equipment loading in one device is traded off to pick up more load on another, thereby achieving the same net "tonnage" for a lower kW input.

This level of control is having a significant impact across a number of different areas.

In systems for chilled water, for example, a COP (co-efficient of performance) of between 3.2 and 2.2 could generally be achieved as an annual average for water-cooled chilled water plant under current best practice. With "full system control", however, using Hartman Loop control methodology, the annual average can be improved to greater than 7.0 COP. This is based on 1kW of electricity used for every 7kW of cooling realised. This compares extremely well with even the best in class performance offered by other modern technologies, offering an energy reduction of more than 30%. Compared with standard practice the level of energy saving is even higher - anywhere up to 60% energy reduction dependent on equipment selection.

As a result of all three of the approaches mentioned, system specifiers are increasingly moving towards integrated systems rather than "kits of parts" when designing systems. These are manufactured away from the building site using the latest 3D modelling techniques. Energy efficiency is designed in and automatically achieved without the complexity of creating a system from scratch. Some examples are included here. Figure 5 shows an integrated heating solution, while Figure 6 illustrates an integrated pump package for water-cooled chilled water systems.

New opportunities to save money

In conclusion, across the whole spectrum of building services requirements there are new opportunities to save money, speed project times and minimise carbon footprint arising from both the equipment itself, and from applying new thinking to design, assembly and installation.

This article was reprinted from the Health Estate Journal, September 2008.



Scenes from last years Christchurch Conference, the annual dinner and Burt Munro's motorcycle trailer.