



THE UNIVERSITY OF AUCKLAND
NEW ZEALAND

Faculty of Engineering

SAFETY COMMITTEE

Meeting 17th February 2011
12pm, 12th Floor Meeting Room

MINUTES

Present:

Nick Brewer, John St George (Chair), Peter Blythe, Dariusz Kacprzak, Geoff Kirby, Malcolm McCarthy, Ian O'Keefe, Marcellie King (Vault project).

1. Apologies:

Kim Williams, Filipa Silva and Enrico Haemmerle

2. Minutes of Previous Meeting

The previous meeting was a special meeting of the Committee in 12th October 2010 to consider the deployment of Defibrillators within the Faculty.

3. Matters Arising

Recommended the purchase of five defibrillators in the Department one shared with NICAI. Action JDStG to email NB to confirm.

4. New members

Appointment and election of H&S representatives for the new committee on-going at present. Chair to contact DMs to confirm. Current list attached.

5. Presentation of Vault System

Ian O'Keefe and Marcellie King gave a review of the Vault project – an H&S web-based system for managing safety in the workplace. The Faculty of Engineering will be used for a pilot study of the system in February - March. Initially Department managers will be trained on the software with H&S reps given access. The software has capability for simplifying many tasks and also for record keeping particularly with regards to hazard incidents.

6. Annual Hazard Review

This was a reminder that the hazard reviews are due at the end of March. It was suggested that Departments organise teams to inspect labs during the review so that they can help and give consistency to the reporting. Nick Brewer suggested that the reviews should be handed in to him before 22 March.

7. Safety Incidents in FoE

- An incident in ECE where a student was injured from sharp edge left by contractors – more due care on contractors required.
- A near-miss incident in CEE was reported which could have caused serious harm. A number of factors contributed to the incident not least insufficient budget and pressure on lab space and time. A report on the incident with lessons learned prepared by Colin Nicholas is attached.

8. Laboratory after-hours access

A draft document on after-hours access guidelines for the Faculty was tabled. Four categories of laboratories were proposed based on risk. From discussions a number of amendments were suggested. When these have been incorporated in the guidelines they will be circulated to the committee.

9. Committee meetings times

Meeting times for the Committee

9th June 1st September 17th November

10. Any Other Business

- There is a planned trial fire evacuation at 11.50am on the 9th March
- Ian O'Keefe advised the Committee about training for the stage 1– H&S certificate – at this time no one from Engineering is enrolled - cost \$200.
- Chair to give safety presentation to Part 1 students on 25th February

Health and Safety Committee Representatives

John St George	Civil & Environmental	88195	Committee Chair
Enrico Haemmerle	Mechanical	88085	Deputy Committee Chair
Peter Blythe	Bioengineering Institute	85808	
Kim Williams	Engineering Science	88392	
Michael Byrne	Engineering Science	83253	
Malcolm McCarthy	Faculty	87016	First Aid
Michael Davies	Faculty	87924	Dean of Engineering
Nick Brewer	Faculty	88124	Head Warden
Kevin Healey	Faculty	89521	
Martin Shepherd	Faculty	88121	Building Warden
Rod Chan	Library	84956	
Alan Clendinning	Chemical & Materials	85810	
Filipa Silva	Chemical & Materials	82572	
Rob Earl	Mechanical	85364	
Geoff Kirby	Civil & Environmental	87255	
Rob Champion	Electrical & Computer	87415	
Dariusz Kacprzak	Electrical & Computer	88198	
Leonid Ostrovsky	Electrical & Computer	88101	

University of Auckland

Civil & Environmental Engineering Department

Test Hall

Lessons learnt from an Incident Friday 4th February 2011

An incident occurred during a test in the Test Hall on Friday 4 February 2011 involving the compromising of the safety of others present. We can be grateful on this occasion that no person was injured or worse, but it had the potential to be so. Just as in most incidents of this kind the causes of the incident can be many. Nevertheless vigilance in one or any of the issues would have prevented the incident from occurring and hence the potential for someone to be hurt. This short report emphasises the issues and projects, we trust, a learning curve which raises the awareness of every person entering any of our laboratories to be watchful and rigorous in their management of operating in an industrial environment (such as any testing facility) where components can be large and complex, materials can be hazardous, hard and unforgiving, and forces generated and voltages can be high

Background to this Incident:

A test was set up where high loads needed to be transferred from hydraulic actuators through to positions on the test specimen via stressing bars and steel hollow section spreaders. In this instance the transfer mechanism was inadequate because of the short length of the stressing bars and also because some damage which had occurred previously prevented them from being positioned correctly. In order to fit one of the bars a heavy spreading washer was inadvertently removed from the connection between the head of the bar and the flat face of a thinwalled steel hollow section. During the test, the head under heavy load naturally "pulled through" the steel hollow section causing failure of the test and damage to some equipment

A first test had proved successful. Inspections had been properly carried out and the set-up had all components correctly in place. The set up for the second test proved time consuming and some changes were made to modify the set-up during rebuild. During this operation the washer on the stressing bar had been removed in order to accommodate the short bar. What is also pertinent is that the time being taken for these tests was perceived as being important with the desire to have the test finished by the end of the day/week. In part because of this, insufficient checks were made on the set-up by the operators for the second test before load was applied

Review and Lessons to be learnt:

1. All operations of this kind require careful design of all elements and sketches of detail throughout the load path. Common sense may prevail in many situations where past experience shows what must be provided. In this respect Lab technicians are very skilled at knowing what should be "appropriate". Nevertheless with high loads, considerable care must be taken to "follow the load path", to ensure calculations and suitable sketches are prepared and that proper inspections and sound common sense prevail during set-up.
2. If changes are made to a set-up for whatever reason, ensure you determine what effect the change may have on the set-up as a whole and complete independent checks on the set-up, re-build and the load path
3. Students may not have the experience and skill of academic staff and particularly lab technicians. In this respect checking procedures must occur at design and sketch operations to ensure the students have not missed anything. In addition checks should be made by independent competent people at critical times during the set-up to ensure the intentions of the designer are being met
4. Materials and equipment must not be used in a damaged condition nor employed in situations outside their normal range. Compromise in any set-up situation which leaves an experienced person uncomfortable should not be undertaken. Find another way round the situation. Replacements and/or alternatives must be sought if this situation arises
5. If anyone in attendance at a test perceives "urgency" or the "need to hurry", alarm bells should ring to make sure that safety checks are not skipped to save time
6. In any test facility, space may be limited, so set-up and testing may be being undertaken in close proximity to other operations. Make sure no one is in the immediate vicinity of

any operation who is not fully aware of what is going on around them. This could well require work to stop on the adjacent experiments during set-up and testing.

Safety and Responsibility:

The first level of responsibility is with the supervisor of the student. She/he has to perform checks on the work and ingrain into the pupils the importance of safety in all aspects of engineering life. All other participants including students, lab technicians, colleagues and observers, have the responsibility to adopt safe working procedures commensurate with the environment in which they find themselves and to report and correct unsafe practices which they may observe

Safety is paramount in all environments that we find ourselves in. Within reason we take risks each day in all that we do. Nevertheless, in the workplace we rely on each other to ensure that we all go home at night from a working environment as safe as we can reasonably make it. This can be achieved with procedures in place which ensure that we are all vigilant in our checking procedures and that an "is this right?" questioning should be occurring regularly

Don't let an incident like this happen again

Colin Nicholas

Tuesday 10 February 2011