The New Zealand LIFT FAX

The New Zealand Lift Fax is produced bi-monthly for the NZ lift industry. Just send your email address to LEC to subscribe.

www.lifteye.co.nz

email - nzlfax@lifteye.co.nz

10C Grange Street
CHRISTCHURCH
NEW ZEALAND 8002

Ph: +64 3 332 2499
Fax: +64 3 332 0016

05/2008

EDITORIAL: FAREWELL TO AN INDUSTRY STALWART:

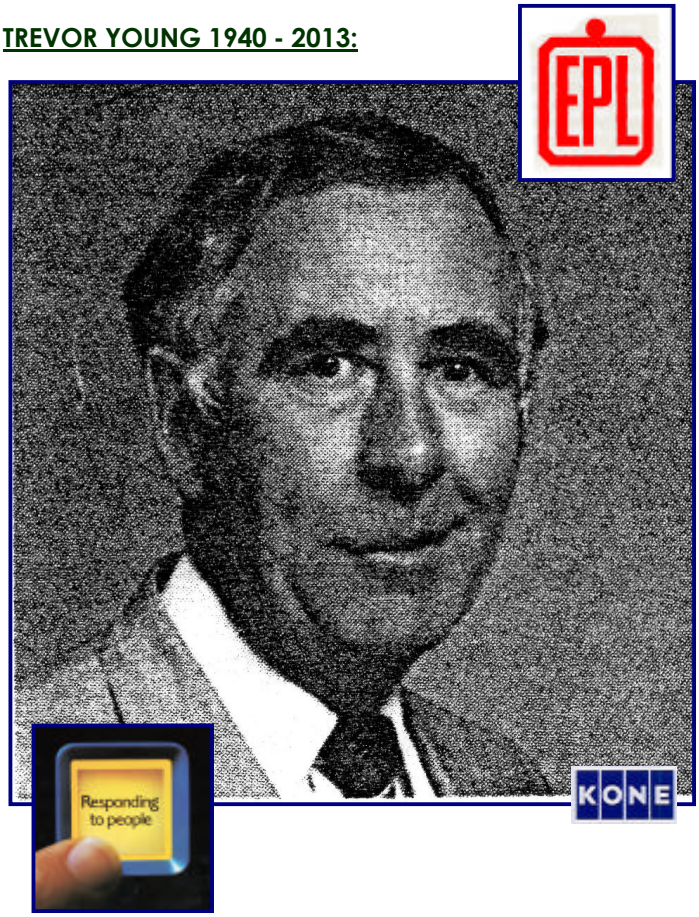
Yes it's the same heading as last issue, but this time we remember another extraordinary individual who has touched many in his years of service to the lift industry in Australia and New Zealand.

I was just 16 when I joined the lift industry with Elevators Pty Ltd, who at that time in 1966 has just terminated its licence with the UK Express Lift Company equipment supplier. At the same time a 25 years old **Trevor Young** had already caught the same bug and was part of the team in expanding EPL into a significant manufacturer of advanced lift control systems to meet the burgeoning high rise market in Sydney. With new branches in Vic(59), SA(60), QLD(61), ACT(63), and WA(1964), EPL had grown out of the high-pressure water network that criss-crossed Sydney from the 1890's providing high pressure water to wool presses and lifting equipment to meet the need for vertical access in buildings and manufacturing. By the 1960's the electric lift had replaced this era and EPL and a team of enthusiastic technical and business savvy individuals led by John Chenhall went head to head with the industry leader; the US Otis Elevator Co Ltd, today part of the United

Technologies Corporation.
It was in this technically competitive environment with industrial electronics increasing effecting control design that this young lad in **Trevor Young** learned his electrical apprenticeship. Trevor was a keen learner with a desire to help others, and so naturally evolved his technical abilities and integrity into training and managing others. It was in this environment that through the 70's until the turn of the century before KONE Elevators Pty Ltd had fully acquired EPL, that Trevor bought his integrity and acumen to the forefront of this fascinating period of growth and expansion of EPL within Australasia. **Trevor Young** was always the one to pass on what he learned and inspire those many lift industry apprentices of the time, who at this moment will all remember the benefit of his association. As an apprentice, field tech and manager, I too am indebted to the massive effort Trevor and his mentors such as Tony Watson provided in documenting and publishing what they had learnt in this technically challenging industry, that through their efforts and many of their peers, made EPL an industry technical leader in high-rise electronic motor and lift system control, even surpassing Otis! On the 3rd January 2013 in Sydney at 72 years of age, Trevor passed on, to be always remembered as one of us. Ed

WHAT'S GOING UP or DOWN THIS MONTH:

TREVOR YOUNG 1940 - 2013:



PAST NZ CODES:

With councils becoming much more proactive in annual D2 WOF's there has been an increase in callers desiring copies of outdated lift codes that in some instances are still current where equipment has not been upgraded or replaced. This shouldn't be a problem in Christchurch anymore as few old lifts are still standing following the 2010-11 earthquakes.
For this reason I have been scanning old copies of the local lift codes so that I can provide access to them through my website. So keep your eyes out for them.

SELLING INCOMPLETE LIFT INSTALLATIONS:

Another issue emerging from tighter Consenting reflects the inconsistency in the Council's D2 Consent processes as far as producing well documented and compliant lifts. Under our 21 year laisse-faire Building Act lift certification system, some suppliers have been placing more effort on selling than compliance.
The result in this market place is that not all solutions sold are equal. Yes, some in the lift sales industry have profited to their customers expense.

This is not immediately obvious to new buyers, as the lift usually goes up and down, but when it breaks down; comes up against a WOF, or is subjected to a competent lift inspection, you may be the one up the creek!

AN EXPANDING SMALL INDUSTRY IN NZ:

The Christchurch earthquake may seethe demise of the larger multinational corporate suppliers reentering the local market with any gusto if building heights are restricted as being promoted locally in Christchurch.

With this scenario of course two things can happen, either the low speed low-rise end of the market will upscale and expand at the expense to the market share of the multinationals, or takeovers of the smaller suppliers will begin by these corporate giants in *their patch* to protect their future investment.

While the corporates have played on ignorance and poo-hooed the small rise market over the past 30 years, it has steadily grown to today where some dozen or so small suppliers service pockets of customers all over New Zealand.

These small suppliers have participated in the production of NZS 4334:2012 to provide a small low rise low speed lift Standard that ultimately should be accepted as an acceptable solution by the **Ministry of Business Innovation and Employment (MBIE).** Once this happens and with the effort the small suppliers have been putting in to document their Consent & WOF processes, building owners should see the lower cost advantages of employing a simpler means of providing suitable mechanical access into many of these new low-rise buildings.

These less complex lift access solutions ranging from $25,000 to $65,000 to install can have acquisition lead times reduced to 4 weeks from the usual lift supply time of 20 weeks from order - the installation time to one week from 4 to 8 weeks – and have an ongoing maintenance and WOF running cost around ¼ of a standard lift per annum.

Then again, these units are designed for a low rise low use for a duty of only a handful of runs an hour, as against a standard lift with a duty of 60 runs an hour, and so the main criteria to consider in this decision, is what are you going to use it for.

In essence, all these low rise solutions achieve the same purpose of moving you vertically safely from A to B, and price differences only reflect speed, load capacity and performance differences, with a premium being paid with longer lead time for imported designs.
To compare the suppliers, see the attached page of my website.
http://www.lifteye.co.nz/equipsuppliers.html

Since introduction of the Building Act in NZ in 1991, local councils have been responsible for the compliance process of this type of equipment and for all means of mechanical access into buildings, which includes both commercial and domestic lift installation.

The property owner also is ultimately responsible to install equipment that is compliant with the Building Act, and needs to take due diligence in appointing suppliers and ensure they are aware of the necessary compliance process to provide suitable documentation for the final product selected.

I have found most council officers are unsure of these processes and mistakenly tend to employ prescriptive acceptable solutions to determine compliance, but these acceptable solutions based mainly on passenger lifts codes were adopted by default, and in most cases are excessive as solutions for non-mixed traffic access equipment such as this, where only an individual wheelchair user and attendant need be moved.

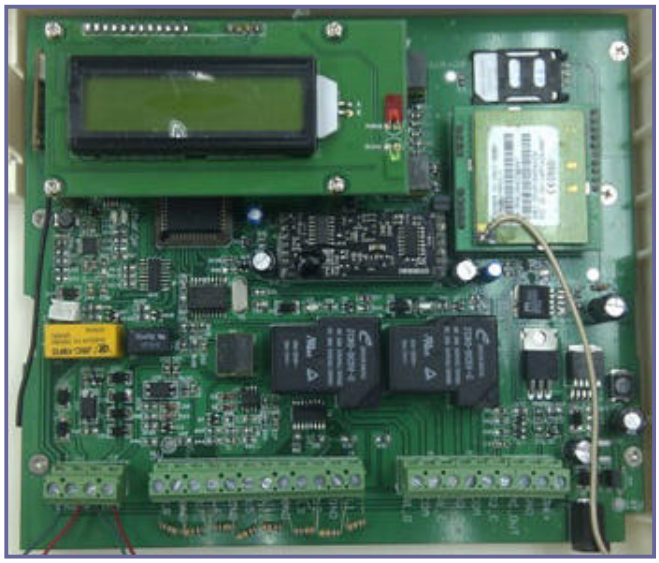
Because the Building Act is performance based, the Building Act clause 18 states that ***building work is not required to achieve performance criteria additional to or more restrictive than the Building Code***, and clause D2 of that code states that solutions need only ***ensure people with disabilities are able to carry out normal activities and processes within building***, therefore alternative solutions can be considered.

In reality these small rise units under the Building Act have been installed in the thousands in New Zealand in both domestic and commercial situations, and where designed to safe industry practice and conform to Consent document requirements, have provided sound, reliable, compliant solutions throughout NZ.
And so maybe Christchurch will become the low-speed, low-rise lift center of New Zealand!

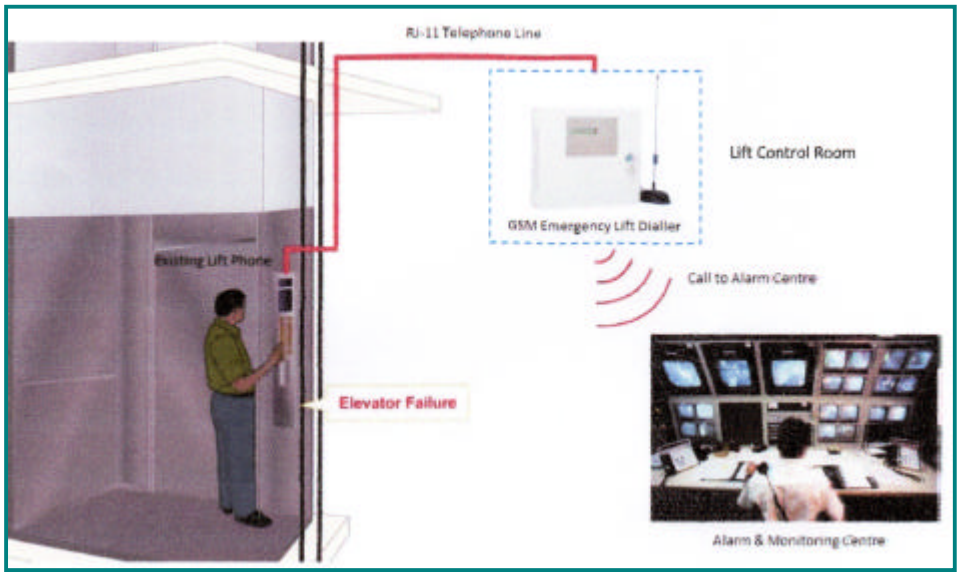
GSM Lift Emergency Voice & Monitoring System:

Some times it's a bugger being a Lift Consultant who sees the idea for a new product but needs to excite others into developing them so as not create a conflict of interest to his day work.

And this product that landed on my desk recently, and that I had once installed as a prototype but could never inspire others to take up the cause, is just what the doctor ordered.



Lift owners and property managers have for years squirmed at the monthly cost of providing a dedicated land line to provide emergency call and remote monitoring access to ensure people trapped in faulty lifts or lifts stopped through power loss, are able to let others know of their predicament.



Features:

- o Supports dual or quad band GSM.
- o Can connect to existing lift phone.
- o LCD display to indicate calling no.
- o Programmable by PC or SMS.
- o SMS alert for lift power failure.
- o Remote control 2x30A output relays.
- o Two low voltage inputs for SMS alerts
- o One independent local alarm output
- o Six hour mains failure battery backup.
- o SMS signal strength test.
- o Configurable SMS alert content.
- o Up to 8 pre-programmable numbers.

The units are also suitable for construction sites to offer temporary communications where the telephone line has not yet been connected.

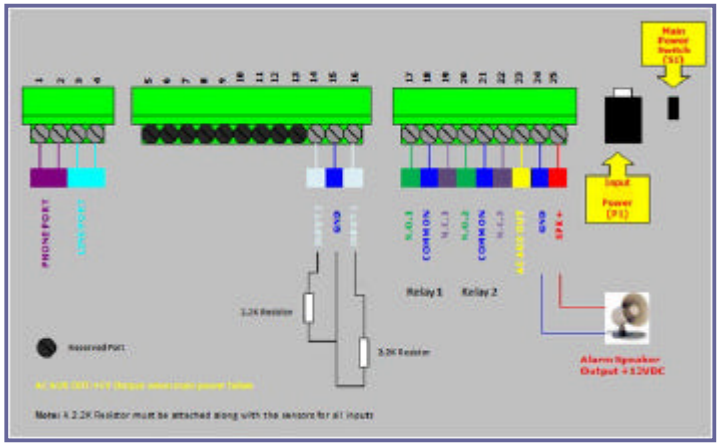
The unit can also provide reporting and monitoring of the operational status of the lift over the GSM network and includes a preprogrammed telephone number alert when power is lost.

The systems are manufactured in Malaysia and direct contact of the supplier is necessary until local agents are appointed.

The fear of being trapped in a lift bothers most people, even being stuck for a couple of hours and being unsure whether or not someone is aware of your plight can rattle the best of us. In all my year I can only remember being entrapped twice, luckily for less than an hour, and a few more times where I was able to release myself when servicing lifts, but today's lift codes all require a suitable means of informing others of your plight.

The problem in NZ is that the Building Owner is subjected to the Telecom fee of around $60/month just to connect a line which is a god-send when entrapped, but rarely used. This GSM Lift Emergency Voice & Monitoring System is the first stand alone system I've encountered that frees the building owner from this monthly cost and is dedicated to this purpose, and it should retail for around NZ$200 per building.

This will remove the need to require a fixed line by employing mobile GSM phone technology that can easily be hooked into existing or new buildings lift alarm systems. The GSM Lift Emergency Voice & Monitoring system is a wireless emergency communication system designed for emergency calls from a lift car to the monitor center, service department, security personnel etc. over the GSM network. The system works perfectly with any emergency lift phone presently fitted in the market.



WITURA CORPORATION Sdn Bhd
101-12-03 & 04, Menara, Perdana, Jalan Gurdwara, 10300 Penang

www.witura.com **Ph: +604 228 9053** **sales@witura.com**

EARTHQUAKE REPORT:

It has been difficult to source any official data regarding the Christchurch Earthquake and its effect on vertical transportation in the area other than for anecdotal experiences or from my own site specific experience, and so I was surprised to come across the below report in the Italian lift publication Elevatori in January 2013.

5.3 The Christchurch Earthquake

The 2010 Christchurch earthquake was a 7.1 magnitude earthquake, which struck the Southern Island of New Zealand at 4:35 am on 4 September 2010 local time.

The earthquake's epicentre was 40 kilometres (25 mi) west of Christchurch, near the town of Darfield. The epicenter was at a depth of 10 km. A foreshock of roughly magnitude 5.8 hit five seconds before the main quake, and strong aftershocks have been reported, up to magnitude 6.3. The initial quake lasted about 40 seconds, and was felt widely across the South Island, and in the North Island as far north as New Plymouth.

Since the earthquake happened at 4:35 in the early morning, the majority of elevators were stationary. In 1980's earthquake codes have included counterweight displacement sensors fitted on all buildings with over 15m of travel. These could be the main reasons for low damage by 2010 Christchurch earthquake. There were no entrapments in the initial earthquake however, 15 entrapments happened during aftershocks.

A survey of elevator service in Christchurch was tabled as follows:-

No of elevators	: 1936
No of displacement earthquake detector fitted	: 540
Counterweights out of their guide rails	: 30
Elevator shaft structural damage	: 2
Elevators required major repair/replacement	: 9
Elevators unable to be returned to service	: 50
Passenger entrapments during aftershocks	: 15

The report was prepared by Prof. Erdem Imrak of Instanbul Technical University, Turkey. It was titled **The Effects of the Van Earthquakes on Lifts** and issued in January 2012 following two quakes; the first a 7.2 earthquake centered near the city of Van in Turkey on the 23rd October 2011, which was soon followed by a 5.6 also near Van on the 9th Nov 2011.

Part of this report compared earthquakes in Seattle (6.8 - Feb 28th 2001), Christchurch (7.1 – 4th Sept. 2010), and in Japan (9.0 – 11 Mar 2011).

Of interest to me was the data associated with the Christchurch quake, as I had quickly gathered it together and published it at the end of September 2010 following the 1st quake. It at least provided some minimal facts on the effects of the September 2010 shake located some 40km west of downtown.

But this detail had paled into insignificance following the devastation caused by the shallow 6.3 "aftershock" that rocked the city to bits, resulting in 181 deaths and nearly all the high-rise buildings and many low-rise buildings being later demolished.

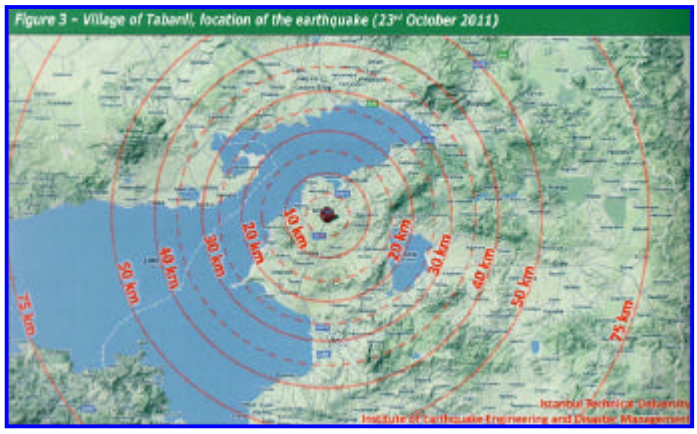
Surprisingly, this Christchurch report seems so incomplete today, even though I have yet to be able to put together a comprehensive tally on the specific damage to each lift installation, because of the tight cordon and controls put in place by the authorities on the central district immediately following the 2nd quake, along with the political urgency to demolish sites, I fear we will never get the opportunity to ascertain this.

That said, the comprehensive Turkey report wasn't subjected to such tight control and many visits to damage sites made it possible to put together a much more relevant report.

The significance of the facts that emerged reflected the hearsay evidence that I had experienced in Christchurch and that is slightly reflected in my initial table of comparison based only on the first shake.

The conclusions drawn were that:-

1. That lift systems are adversely effected by earthquakes.
2. The higher the magnitude quake, the more damage.
3. The counterweight rails are most susceptible to earthquakes from derailment through greater fixing spans and weaker installation bracketing.
4. Direct acting low-rise hydraulic lifts were less susceptible to damage due to not having counterweights and having the cylinders supported by the foundations. Their hydraulic tanks are isolated and connected through flexible hose connections.
5. Entrapment depends upon the time of day that earthquakes occur.
6. Counterweigh displacement sensors lessen entrapment by slowing the lift to the nearest floor as soon as the shake begins, but logistically cause many problems by shutting lifts down during lesser aftershocks requiring service attendance to many lifts.
7. That retainer plates on cars and counterweights decrease derailment, compensator and equipment tie-downs, rope keepers, seismic sensors, and hoistway trailer snag guards lessen damage relative to the size of the earthquake.



Experts who were involved in the survey were:-

Professor Dr Endem Imrak – Instanbul Technical University.
Mehmet Yucelay – Royal Asansor, Instanbul.
Dr Ferhat Celik – Blain Hydraulics Gmbh, Germany.