

# 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.

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## WHAT'S GOING UP or DOWN THIS MONTH:

### AFTERSHOCKS RECEED – WELL ALMOST:

The total aftershocks as of 9:45am on December 2<sup>nd</sup>, after the initial magnitude 7.1 quake that struck Christchurch and its surround on September 4<sup>th</sup> 2010, has now reached 3454.

See: <http://www.christchurchquakemap.co.nz/>

With only 6 recorded on this day around the magnitude 3.0 mark, there is a quiet confidence that the tremors size and frequency is finally dissipating. By Xmas day over and 4277 after-shocks have been recorded, with most people more focused on relaxing and enjoying the festive period.

But Boxing day came with a bang, recording a further 33 more after-shocks ranging from 4.2 around 2am; 4.3 a half hour later interspersed with 3.0's up until 10am when a rolling 4.9 brought us back to the brink of concern.

Earthquake sensors once again shut lift down and further cracks and collapses occurred in city buildings, bringing the whole emergency response back to a high level.

For a look on the local effect of the Earthquake in Christchurch, LEC has put together an article for Elevator World to try and capture both the personal and affect on the lift industry that should be published early in the new-year.

### EDITORIAL:

Well the New Year began quietly and we were able to have a few days away in our camper Bojangles II, to firstly see how much the Glacier's of Franz Joseph and Fox were being affected by global warming in the South Island, and also to visit the NZ Gliding Champs in Omarama.

With ice-blocks the size of rubbish bins constantly flowing out of an ice-cave under the foot of the Franz Joseph Glacier, it was hard to conceive where all that ice and water was coming from, but experts suggest a recent advance may be more due to rock falls onto the glacier insulating it, and so it was difficult to judge any change in the depletion rate of the glaciers. But what an amazing natural event to witness again!

The day was hot with hardly a cloud in the sky, and that was the problem the day we visited the NZ Gliding championships, because I now know that low clouds; no matter how few, means insufficient rising warm air, resulting in much relaxing and gasbagging.

On what was to be our final night away in Tekapo, and looking forward to visiting Mt John Observatory to explore the Universe at 11pm, a hiccup occurred when approaching the local mobile camper park when an unsuitably placed and excessively large traffic calmer located at the bottom of a slope removed my grey-water pipe, unprofessionally dumping 4 days of washing up and shower water along the road for the next 100m or so. This completely destroyed the credibility of my esteemed and highly visible iridescent green "Responsible Camper" sign, so as I gathered my bits of broken pipe; and no longer being able to store any 'grey water', our relaxing break ended up as a slinky tactical withdrawal late in the day all the way home to Christchurch. **Happy New Year . . . Ed.**

*Dave Shaws accident investigation still awaits Coroners findings:*



FRANZ JOSEPH GLACIER



OMARAMA GLIDING NZ CHAMPS



MOUNT JOHN OBSERVATORY

### NATIONAL IQP's:

The status quo remains until the DBH makes the next move to back the building industry and Councils so that

they can move ahead to finalise structure and process for each specified system. Like the LBP process, I suspect a slow possible 2-3 year transition for IQP's to move onto a new National IQP register and to reestablish qualifications under the new regime. The aim is to achieve a single, clear and consistent annual WOF process throughout NZ in each area of specified systems such as D2.

## D2 SPECIFIED SYSTEMS – Wavers?

You are correct, we have discussed this issue a hundred times, and so you may ask why it's bugging me again now!

It began with a call from a Council Consent officer keen to have a better understanding of lift inspection requirements so that a simple standard process of certification could be used in his patch. Two areas of discussion arose of which I feel it best to put the views on the table so to speak.

1. The first statement of concern was that:- **Councils need to interpret lift codes so that they can better assess any proposed lift Consent solution.**  
My response was that:- **Councils need to have a clear verification process to more consistently document D2 lift compliance and to establishing a functional record of all installation, NOT to become determiners of lift solutions or pseudo lift inspectors.**
2. The second statement of concern confirmed my suspicion that **some Council's are adopting presumed waver rights under the Building Act to not require safe testing and basic documenting of domestic lift installations during the Consent process.** The argument being put that they are not **Specified System** because they don't require a Compliance schedule.

I believe this stems from two misunderstandings:-

- (a) That **because the past MOT didn't inspect domestic lift installation prior to 1992, inspection is unnecessary under the Building Act.** In reality, **the Building Act does not differentiate between commercial and domestic specified systems as far as a safe D2 Consent inspection and testing goes, in fact it clearly identifies acceptable domestic solutions in the Building Code under D2 AS2.**
- (b) That **because domestic lift's don't require compliance schedules, they are not specified systems.** Where as domestic buildings still need to go through the Consent process to establish the solution compliance to the Building Act. **By not establishing their safe design at Consent, it cannot be confirmed the design is safe to move persons,** as sadly we have found out in New Zealand with a high number of lift accidents and deaths due to poor lift design and inspection processes.



It is easier sometimes to invoke a waver than to understand the issue, but in fact a consistent process of compliance, even though the solutions may vary considerably encourages a much more consistent standard of safety around potentially dangerous equipment, and it doesn't necessarily follow that bad solutions are less costly, nor more difficult to process.

It would be difficult to suggest the domestic building owner is negligent following a lift accident when the wavered Consent process has by default deemed the equipment safe to use, even though it hasn't required independent assessment and testing for suitability of purpose during the Consent process.



Far better to know the solution has been independently inspected and tested before going into initial service during the Consent process, when the responsibility of the owner from then on is only to maintain it, and not have to know if what was sold to him was suitable or safe in the first instance.

The solution is straight forward, what is needed in New Zealand is:-

**A single competent specialised lift inspector certification system, with a clear verification process for each D2 equipment type that is exposed to lift industry expertise and a suitable certification body, backed up with an easily accessible national data base record of every lift installation in New Zealand that is updated through the Consent and Compliance Schedule process.**

We may never be able to fully remove the risk to users of mechanical access equipment, but as our institutions rush to demand insurance against speculated risks by imposing unnecessary overhead cost on inspectors and building owners, and continue to procrastinate in putting together clear verification methods and workable compliance processes, we are still far from providing good and safe D2 Governance of the Building Industry in NZ.



## FIRE FIGHTING LIFTS:



As early as 1930, it was recognised that fire-fighters should be provided with a means of swift access to the upper floors of large buildings. This resulted in conventional passenger lifts being fitted with a break glass switch at the main access floor, that, when operated brought that lift quickly to that floor.

It was determined that such lifts should have fire rated (min 1hr), power operated doors (min 0.8m wide), with a min. 550kg capacity that travelled at a speed sufficient to travel the height of the building within 60 second.

British standards such as BS 2655 Part 12 followed by BS 5655 in 1979 were again superseded by EN81 Parts 1&2:1998.

Details regarding the structure of buildings for fire-fighting lift shafts were contained in BS 5585-5 and finally BS 9999.

In NZ the local lift standard NZS 4332 clause 25.6 & 7 reflected overseas standards of the 80's with a focus mainly on non-use of lifts during a fire, and controlled access for firemen



in buildings over 15m of travel height, but these still do not address the issue of using lifts as a means of escape during a fire in high rise building.

## EVACUATING A BUILDING USING LIFTS:

Buildings of less than 25 stories are unlikely to reduce the time of building evacuation through using lifts as against using the stairs. Any use of lifts for evacuation should not be used as an option to decrease the use of stairs. It is understood that the European Committee for standardization (CEN) for Evacuation of Disabled persons using Lifts, is still several years away.



## CONNECTION TO AUTOMATIC FIRE ALARMS:

In Australia and in New Zealand, because of the separation of the lift power supply, the "Do not use" signs, the machine-space over-heat detection and fireman controls, under NZS 4332 clause 24.4, the power supply to lifts shall not be interrupted automatically by a fire alarm system.

The main reason not to isolate lifts immediately any automatic building fire alarm is initiated is to not preclude their use up until fire services arrive and establish their status.

## BUILDING ACT AMENDMENT BILL (No3)

Every now and again the results of any reviews of the Building Act get to the stage of a new Bill being presented to Parliament. And so when the 2004 Act was reviewed in 2009 that included a change of Government, it reflected in a Bill issued at the end of 2010 detailing more change, that when enacted could once again affect us all. This is possibly the first to two bills to be issued over this period.

See: <http://www.dbh.govt.nz/building-amendment-bill-no-3>

Some of the key changes indicated are:-

- o The term **Code Compliance certificate** in section 7 is to be changed to **Consent Completion certificate**. *This is probably a risk aversion tactic to reduce council exposure to litigation as it does little else.*
- o Introduces levels of **Stepped Consenting** by amending section 41 to 52 and adding 4 new schedules 1A to 1H to include:-
  - A low-risk building consent.
  - Simple residential building consent.
  - A standard building consent.
  - A commercial building consent.
- o Sub-part 4 to part 1 of the act identifies the flowing participants in the Building process:-
  - Owner.
  - **Owner-Builder.**
  - **Designer.**
  - **Builder.**
  - BCA
- o Amends section 100 to clarify the requirement for a cable car to be on a Building Compliance schedule. *Why Cable cars are just not identified as part of D2 needing to be inspected & tested as specified systems during installation (Consent), and only requiring them to be on a building Compliance schedule like all other D2 commercial equipment is an anomaly to the Act beyond me!*
- o Section 106 is amended to confirm the retention of the **IQP** rather than the 2004 Act proposal to use **LBP's** to do WOF inspections. *This has allowed the DBH and local Councils to focus on nationalizing the IQP structure.*
- o Adjusts section 176 to broaden the meaning of owner to include multiple owners in relation to whom a **Notice to Fix** relates to.
- o Amends the meaning of inspection in Section 222(4) to ensure that ensure **Quality Assured Systems** are complied with.
- o Add a new paragraph to section 282A referring to **LBP's carrying out or supervising low-risk residential work.**
- o Section 303 enables an **annual levy to be applied to LBP's** for licensing and disciplining.

Amendments to the whole of section 300 follow on with the restructuring of the LBP administration, discipline and levies to make it a more auditable process similar to where the **EWLG** (Electrical Contractors Licensing Group) has wandered under the **EWRB** (Electrical Workers Registration Board). I expect this and the 2<sup>nd</sup> Bill will be adopted into law over 2011 so it may be opportune to familiarise yourself with the complete documents.

See (Regulator Impact Statements for 23<sup>rd</sup> Nov 2010)

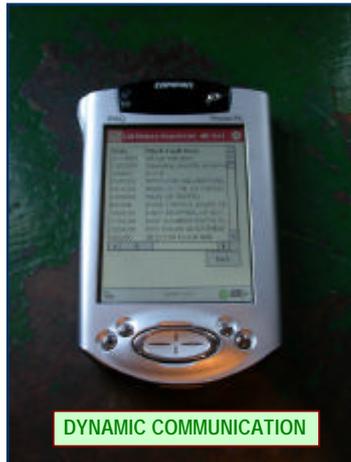
<http://www.treasury.govt.nz/publications/informationreleases/ris>

## THE DIRECTION OF LIFT TECHNOLOGY:

We have entered the 21<sup>st</sup> Century where we can now say goodbye to the past century that has seen lift systems evolve from the transition of the industrial revolution to the computer age.

We have emerged from an era where electricity engendered the electro-mechanical age requiring high field trade skills and knowledge gleaned from experience to install and maintain lift equipment, to where computer design and manufacturing is increasingly removing the significance of this past reliance on the field mechanics skill.

The high speed low cost computer has not only impacted on the total engineering production of lifts, but also on the management through globalised communication and financial control of a companies every day operations.



For the Property Manager of lift systems also tightly financially managed, the focus on efficiently employing resources to maintain a consistent operational performance with minimal disruption to building user is foremost. And this needs to be achieved in a much more competitive market, requiring keeping the finger on the pulse of any system, doing more with less.

By less - I mean less time, less support staff, less inefficiency in process all amid less tolerance for oversight.

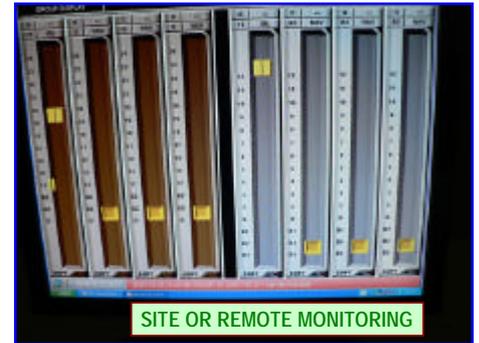
By more - I mean in being more productive, more efficient, more aware of the economic responsibilities of the process, as well as being fully in sync with the corporate policy.

The two main technological evolutions impacting on the lift industry over this new century will be the full integration of the **Destination Control system** into all control solutions, along with the **Dynamic real-time Monitoring and Reporting** of lift system status to service providers and property owners.

It is these areas that the young engineers are working on that will impact the service provider and property owner the most.



Engineering embedded smartness in all facets of the equipment when manufactured will enable real-time monitoring of the main safety and durability operating parameters of any system, and when combined with usage based maintenance and wireless finger tip diagnostics and intelligent backup, downtime impact on lift systems will be minimised.



The unquestionable means of a lift user being able to allocate their preferred destination into a lift control system at the point of access, rather than after the lift



has been allocated, has resulted in demand to destination efficiencies of up to 25% during periods of peak use, and when combined with multiple means of demand location and input, there will be no advantage in retaining the past Up/Down directional input systems for lift user demands.

It is early days as our conservatism and vested interests limit adoption across the mainstream market, but in the end the inherent efficiencies and flexibility of lift user inputs spread throughout the building rather than in dedicated lobbies, will enable more flexible building layouts, number of lifts used in single shafts, double decker lift solutions, and multiple lifts serving mixed stop rises under the one control system.

Demand at stations can be reduced through a much wider means of smart and secure input devices, and traffic patterns learned.

The challenge to designers is to keep it simple for the user through easy input of a preferred destination, by providing clear information of the path to the allocated lift, and smart monitoring of a users progress to ensure quick and satisfactory arrival at their destination.

