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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EDITORIAL.

INDEPENDENT LIFT INSPECTION:

With the TA's (BCA's) in the accreditation stage at present improving Council administration of the 2004 Building Act, and with the Licensed Building Practitioner (LBP) structure seemingly being resolved in the back rooms, those Independent Inspection Bodies hoping to secure their place as 'One Stop Independent Inspection Shops' are endeavouring to fill the void in lift experience in Consent inspection, by rooting out the few independent CBIP lift inspectors in NZ to form individual alliances with them.

This would look good to the DBH I suspect as it may provide a solution for them in how to accredit so may varied skills to meet their LBP scheme objectives, and would be much easier and more cost effective than setting up a monolithic DBH accreditation of all building skill groups by leaving this task to these private "One Stop Shops". They can also leave the insurance issues, still unresolved since introduction of the 1991 Act that decimated the independent Building Certifiers, by not having to appoint independent BCA's.

This is all very well, and it may work for other building trades, but without continuity of structure between the lift industry, the skill of inspectors, and consistency in examination, documentation and inspection processes nationally in NZ, the fragmentation of multiple 'One Stop Inspection Shops' working alongside TA's I fear will be no different than that achieved under the 1991 Act.

When is the Government going to realise, that by giving assistance and guidelines to achieve the level of Governance it requires, the lift industry can quite capably provide the necessary national inspection processes to ensure competent, accountable and credible inspection under the Building Act, and that wastefully spending of millions on accrediting existing worker skilled in their trades adds massive overhead with little to no likelihood of an effective inspection structure.

WHAT'S GOING UP or DOWN THIS MONTH

KONE APPOINTS PETER LOADER AS LOCAL MANAGER.

With Alan Wilby returning to Auckland to join Schindler last month and **Peter Loader** leaving Otis to set up a contracting business, it was a surprise but not a shock to hear Pete had decided to take up an offer from **KONE's** NZ Manager Ron Perez to retain his sales experience in this local market.

Peter starts in December, so it should allow him to get his feet on the ground and practice not driving to the wrong office before the New Year. You may laugh!

CHARLES KELLY GRABS XMAS OPPORTUNITY:

Otis Sales Account Representative in Christchurch; Charles Kelly has grabbed the opportunity to take a quarter share in a new Advertising company, and so departs the new Otis team after Xmas on the 19th of January 2007 to take up his new challenge. It has been a pleasure to work with Charles over this relative short period, but this is the new world of business it seems as individuals seek more than employment, but a viable path to grow in their work environment. We wish you and your family well Charles.

MERRY XMAS FROM LEC:

It has been my busiest year yet after a slowish start and as you can see I'm still a bit behind by the lateness of this issue going into Xmas.

The past year has seen a mix of upgrades and new lifts with MRL's dominating the market with the exception of a 4000kg 6 stop hydraulic vehicle lift an interesting project to say the least. A wide variety of project reviews along with the effects of Building Act changes beginning to pressure Building owners into completing consent documentation and compliance schedule inspections is on the rise.

The New Year seems it will be just as busy with movement in the medium rise buildings in Christchurch and a few LEC proposals that stagnated over the past couple of years beginning to move.

LEC will close down early on the 21st December for Xmas in Melbourne, planning to open the doors around the 13th of January after a well deserved break.

And so thank you to all who I have worked with this year, it has once again been fun. **Seasons Greetings to you all,** and see you refreshed in 2007. Bob.

DESTINATION SYSTEM QUESTIONED IN MARKET:

When the automobile first came on the market, it too was subjected to comparative examination by conservative opinion in highlighting the perceived shortcomings of the motor vehicle to the horse and buggy, thereby overlooking the future possibilities.

But this technological evolution was an unstoppable step forward that was to significantly change the means of human transportation within our society.

Maybe not as significant, but a conceptual change within the control systems in lifts is presently seeing the first evolution to the way peoples use lifts since they first became automatic, whereby the user inputs the actual destination, rather than just the direction of preferred travel up or down.

The conservative opinion is once again strong, but like the automobile and the mobile phone, designers will embrace this change because of its fundamental efficiency and flexibility in being able to more efficiently process demands and dynamically update and allocate them up until the lift starts.

In the Destination system, more flexible demand inputs need to be considered because theoretically a single input is necessary for each user to get to their destination, and for groups of people it is easier for one user to place an input and others to follow where going to the same destination.

The worst case scenario would be for a large group to enter the lift after only placing a single destination on the system. This could significantly effects the capacity of the lift to respond to allocations ahead of the lift , so it is therefore essential to continually and dynamically monitor loading of the lift to identify any allocated load imbalance and adjust allocations accordingly each time the lift stops at a floor.

Of course this should only be a problem in times of heavy use, but this is when efficiency in performance is most critical.

With users of existing lift systems and once in the lift being able to walk into any lift and decide their destination, a problem arises when they confront the destination system, as they cannot control where the lift is going, similar to getting on the wrong train. They have to get out and input their destination from a landing to ensure an allocated lift is going to their floor.

My initial response is that being humans they will soon learn how to use the system, but in reality you cannot take this lightly, because anecdotally from a prestigious China Hotel I've heard the proprietor had the destination system removed, because of the number of confused guests wandering throughout the building trying to find their rooms. With such a change in concept for first time user to confront, I suppose the concern of the hotel owner is understandable, and so in the interim these issues need to be addressed before the building is opened or similar experiences may arise.

The key issue from my point of view, is to address the cause of the problem not the misuse, by easing the transition for unfamiliar users by either making them more aware of a new system and how to use it, or through providing a smarter interface between user and system.

eg. When guests first enter the hotel through reception, provide each with a programmable smart card like that used to unlock their room that also gives access at the lobby station up the building through the lift directly to their floor. Once familiar, they can then venture to other floors using the standard landing keypad and use their card to return to the lobby and room until they gain confidence.

For International hotels, maybe when they book in at reception, their preferred language could be noted on their smart card, so when used to access the lift, the lift system can respond in their preferred language with which lift to use. To make it even easier for new guests arriving, why not have the receptionist through her remote keypad input the demand for the guests, then direct them to the indicated lift, and upon arrival it will take them to their room without having to put a bag down.

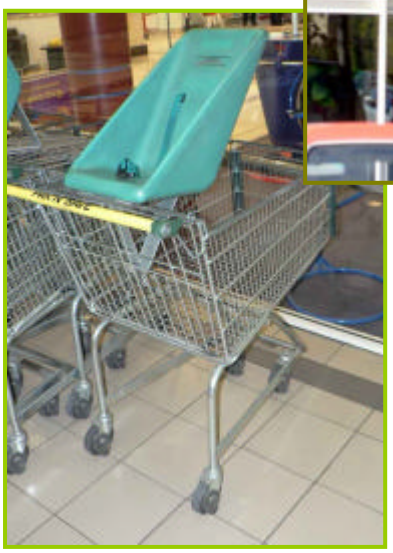
I am already hearing of hybrid lift systems that try to address real and perceived user problems using a mix of Up/Down and destination concepts, but in the end, to keep the user interface simple; educate the user, and smarten the system to combat misuse seems a simpler way of solving any problems is preferable than redesigning dedicated hybrid systems. Remember the biggest deterrent to inefficiency caused through misuse, unless you want to start issuing fines, is by using the power of the computer to be technically smart to discourage misuse of any system.

SHOPPING TROLLEY ACCIDENTS UPDATE:

Last months report on the Riccarton Mall shopping trolley death of a year ago to which a Coroners report is to be issued but with little likelihood of publication, it was presumed it happened exiting the travellator at the comb plate transition, but I now understand it was in mid travel, which is highly unusual.

For this to happen the trolley would need to move laterally on the pallets suggesting one if not both wheels have not set in the tread plate, allowing the trolley to move laterally and mechanically strike the static balustrade.

Now you would think if it was the rear of the trolley that moved laterally it would tend to brush off the balustrade, whereas the front end may catch a flashing or similar, that seems to have



caused this loss of control. But if I remember right, the rear wheels are fixed and if locked on the pallet would inhibit lateral movement of the trolley.

Without trying to solve this specific problem through supposition in not having all the facts, the key areas to focus on as I see them are:-

1. To only have automatic braking on the rear fixed wheels would encourage users to continue to walk their trolleys onto the pallets until the rear fixed wheels lock in place. This would mean only the fixed rear wheels support or hold the load; inhibit lateral movement of the trolley once set on the pallet, and provide sufficient force from the back of the trolley for comb plate transition.

2. Only rear wheels should have discs fitted to align the trolley's locked wheels with the pallets. Discs on the front rotating wheels if set before the rear ones, mean the rear of the trolley cannot set without the need to be moved laterally to align them with the front wheels to provide the preferred exiting push from the rear.
3. If jamming is still considered a risk, to stop trolleys from jamming between the balustrades causing an obstruction, 4 horizontally fitted guide wheels fitted at the extremities of the trolley and at a height able to roll along the balustrade should fix this. I would expect this possibility to be a terribly rare occurrence and only as a result of misuse.

I suspect most manufacturers have gone for more braking on all wheels to lower the risk of brake failure, whereas it opens the opportunity for the more critical rear brakes not to set and thereby allow any comb transition problem to be responded to by the instinctive response of the user rather than the preferred push from the rear brakes.

OUR LOCAL MALL MANAGERS EXPERIENCE WITH EXPOSURE TO TRAVELLATORS:

There are two types of accidents that can occur on travelators. During my investigations it became apparent that these are widespread nationally with most centres experiencing problems in the months following installation until customers get used to the machinery. I liken using a trolley on a travelator to disembarking from a chair lift on a ski field, it takes a bit of practice to get it right and inattention or poor preparation can be disastrous.

One of the big issues facing the industry at the moment is that there is no legislation covering trolleys on travelators. There are New Zealand standards for trolley construction and the international EN115 standard for travelators. Trolleys used off travelators are generally safe if used appropriately and similarly travelators carrying only pedestrian traffic are very safe. The problems arise when the two are combined.

Malls and other public spaces work hard to provide a safe environment for their users. This can perhaps lead to a somewhat false sense of security (in fact most malls are probably safer than most people's homes). What a lot of people fail to realise is that when you combine a loaded trolley which may weigh 100kg plus with a large piece of inclined and moving machinery extra care must be taken.

The first type of accident is when a trolley skews sideways part way up a travelator. This can sometimes lead to the front rubber bumper catching on the side glass of the travelator further jamming the trolley or causing it to tip. In my opinion this is generally caused by the trolley's front wheels not locking when it is first loaded on. I believe that locking front wheels are a necessity to help pull the Trolley's on, for without them many customers would struggle to push a loaded trolley up the roughly 12 degree slope to engage the back wheels.
If however the trolley is loaded at a slower speed or there is a hesitation then, due to the trailing steering axis on the front wheels, they will start to pivot around and could end up stopping at an angle without the brakes engaging. This then makes the trolley susceptible to swing around part way up. The fix for this type of problem is customer education on correct procedure for loading the trolley onto the travelator (i.e. straight and assertively).

The second problem encountered is when a trolley stalls at the top comb plates. Factors contributing to this could include transition length (the distance of flat travel leading into the comb plates), type of front wheel locking mechanism, and effectiveness of the rear wheel locking Mechanism and load distribution in the trolley basket. Unfortunately one common reaction amongst customers upon encountering such a problem
is to lift the trolley handle thus bringing the back wheels off the travelator and removing the one force which helps get the front wheels up over the comb plate. This scenario often leads to the trolley tipping forwards and or sideways. When combined with the movement of the travelator this can result in crush type injuries to the customer as they get caught up in the tipping trolley. Front heavy trolley loads make the trolley more susceptible to this sort of nose diving and reduce the downwards force on the rear wheels necessary to transmit the travelator's motion to move the front wheels up and over the comb plate.
Lower profile comb plates, 10 degrees rather than the standard 14 degrees may help but in this scenario the traditional aluminium comb plates may need to be replaced with stainless steel to endure the extra leverage that the extra length creates. This is turn could alter the breakaway characteristics of the normal aluminium comb plate fingers.
Educating customers on correct usage also plays a large role in reducing serious harm or injury with key points including using both hands to guide the trolley off (i.e. don't hold a coffee in one hand or a child on the hip) advise that the infirm do not attempt to take trolleys onto travelators (some trolley loads will weigh more than an elderly person).
Not lifting the handle is another key point to be communicated. In supermarket situations where it is the customer who packs the groceries then it would be advisable to have signage advising that heavy items be kept to the middle or rear of the trolley cage.

Ultimately we can but hope that some industry or governmental resources are focused on this issue and a set of standards covering trolleys on travelators are drawn up.

Jason Marsden B.Sc (Physics)
Centre Manager
The Hub Hornby

Thanks Jason, Merry Xmas: