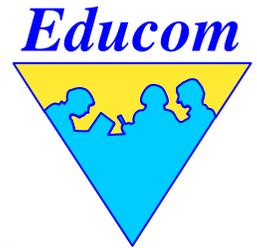


Lift Inspectors Association of South Africa

Technical Education Communication No. 43



December 2010

In compliance with the *Engineering Professions Act (No. 46 of 2000)* requirements, LIASA endeavours to assist her members in keeping up on technological developments that impact on their registration. LIASA most earnestly support ECSA in their search for *professional service excellence and pursuit of continued professional development*. EDUCOM keeps you up to date on ECSA and industry related news.

NATIONAL EXECUTIVE COMMITTEE: *Chairman: Sanjeev Singh; D/Chair: Bill Murphy; Treasurer: David Kleinhans; Secretary: Dr Theo Kleinhans; EXCO: Terence Baker; Ronnie Branders; Willem du Toit; Micky Martin; Brendan Trower*

DOYENS OF THE LIFT INDUSTRY: *Buddie Cerone (2004); Schalk van der Merwe (2005); Dr Theo Kleinhans (2006); Willem du Toit (2008); Bruno Isler (2009); Alfie da Silva (2010); Manny Perreira (2010)*

*“One of the greatest privileges in life ...
Is to participate in something unforgettable.
If that experience turns out to be pleasant to boot ...
It makes your whole achievement that much richer.”
Cyril Ramaphosa*

DEPARTMENT of LABOUR WORKSHOP **30TH NOVEMBER 2010**

Director Jakes Malatse and Deputy Hlaks Monyaki are to be congratulated for the excellence of the workshop held in Benoni revolving around the new OHSAct amendments. Although published in *Government Gazette No.9380 of 17th September*, they only became legally in effect as from 1st December 2010.

Presentations were made by ...

- **Mr Hlaks Monyaki for DoL** - explaining the impact of the LER amendments and the way forward as DoL see it.
- **Dr Theo Kleinhans for LIASA** - **The pitfalls encountered with the old regulations in inspection and testing of lifts and escalators, with concerns that need to be attended to in future.**
- **Mr Terrence Baker for LEASA** - The impact of the regulations on lift and escalators installation, maintenance and repair.
- **Mr Clarence Thompson for ILASA** - Slotted in with LEASA from an independent's view-point.
- **Mr Bruno Isler for SABS** - Elucidated on the standards that have been introduced to date, their reviewal and the way forward with new and revised standards in a never-ending drive to improve safety.
- **Mr Solomon Mahlangu for SANAS** - The challenges of meeting DoL's requirements for the accreditation of RLPs, their interaction with DoL and LIASA and the way forward. He explained the extensive requirements for pre-assessment,

followed by initial assessments to evaluate the critical requirements. Costs were discussed but not amplified.

- **Messrs Zack Mazibiko & Naphtali Mokgotsane for MerSETA** - Training of personnel in the Lift Industry to meet the newly defined roles of artisans and operators. They confirmed the re-introduction of *Apprentice Training*, but also not discarding Section 28 developmental training of operators to eventually qualify as artisans. Skills development will become inextricably interwoven into these training needs.

- **Mr Jake Malatse closed the Workshop** - Extolling the virtues and powers bestowed on Lift Inspectors to enforce safety and technical compliance standards through their inspections and tests of lifts and escalators. Jakes explained how we do not only have this *defined quality and safety* to protect, but also our reputation under the Codes of Conduct and Practice.

Being registered by ECSA, is a license to serve the Lift Industry as ombudsmen, to see that every lift and escalator that we inspect is fully compliant. *Public user safety* must at all times prevail as the golden thread that runs through our installation, maintenance, repair and inspection actions.

It is the constitutional right of especially every disabled person to have the opportunity to use lifts safely in whatever configuration. This is why so many standards were developed in this direction, to meet the various fitness-for-use needs and be ultra safe.

Jakes thanked all present for their inputs, especially the Regional DoL Managers and their representatives whom he requested to stand. Extensive discussions then followed with the ensuing lunch.

"I simply cannot imagine enjoying my work so much, working with such talented young people, who each have the ultimate desire to be a winner."
Garry Player

BRUNO'S FAREWELL MESSAGE

"UNTILL WE MEET AGAIN"

IT WAS A TOUGH, CHALLENGING, EXCITING & REWARDING 40+ YEARS WITH SCHINDLER LIFTS (SA) Pty.Ltd., BEING A PROUD "TECHNICAL COMPLIANCE" AMBASSADOR OF ENTRUSTED MANDATES IN RESPECTIVE REPRESENTATIONS & INTERACTIONS WITHIN THE R.S.A. ELEVATOR INDUSTRY, REGULATORY AUTHORITIES & VARIOUS ASSOCIATION'S ...

BUT - WE MADE IT ... THANKS TO YOU ALL AS EXEMPLARY TEAM ROLE PLAYERS.



I have been privileged in working with wonderful people and thank you for the great enriching working relationships.

Your **Honesty, Integrity, Openness & Fairness** always inspired me to continue and pass on what I was taught by some of the greatest mentors in the lift industry. I have developed wonderful friendships that will surely continue after this

I am on official leave from Wednesday 01.12.2010 until end December 31.2010, returning on Monday 03.01.2011 for the final hand-over!

May I take this opportunity in wishing you all and your families a Blessed Festive Season and Prosperous Happy New Year. Where ever you travel, have a safe journey, relax and enjoy every day with your beloved ones.

I do not believe in goodbyes but rather - ***Until we meet again!***

May The Almighty Bless you all.

Bruno Isler



Ask Bruno about the 1st Law of Quality ... he will tell you off the cuff ... "What gets measured ... gets done! No lift technician will ever develop if he does not get measured (supervised, mentored and instructed)"

Johan Kleinhans will add "...and it's not rocket science either, just plain straightforward everyday quality logic of how you should think and how you should act ... So work smarter, not harder!"

TUT LIFT INSPECTORS COURSE

As previously advised, we were happy to hear from Willem last week at the DoL Workshop that TUT (Tshwane University of Technology) have now opted to continue running new courses. **WHEN exactly** we do not know, but Willem indicated mid-February as the first possible date.

Please contact LIASA secretary Bonnie Peden ASAP with your name and details, since she already has a substantial list of prospective candidates.

*We regret this extended hold-up to candidates ...
But it was outside our control!*



EXCITING NEW DEVELOPMENTS & GREEN-STAR RATING IN THE SOUTH AFRICAN LIFT INDUSTRY

Now that we have the luxury of placing our final inspections and project management requirements behind us, at least till the New Year, we can concentrate on the important issues raised by the LIASA Education and Training Committee for 2011. Chairman Sanjeev will certainly have his hands full and will appreciate all the assistance that our senior RLI's can give him in this regard.

Being involved with several large new and upgrade projects in the multi-million bracket, with dated DC Ward Leonard drives with MG sets & AC Thyristor drives amongst others, we cannot overstate the requirement for replacement of the solid state controls of yesteryear. Our latest interaction with the multi-nationals, have brought surprising new revelations of

products that were until very recently still considered to be design concepts, but are now available to the market in practice.

A total continuum shift has occurred, moving to AC V3F geared and gearless drives with permanent magnets. Controls are the latest state-of-the-art micro-processor fuzzy logic. The drive position concept has also moved from conventional motor rooms to MRL (motor room-less) to 'mini-space' cubicles above the shaft in the form of a mini motor room, but at dimensions no greater than the shaft. The controls consisting mainly of the new frequency drive, are all situated in the shafts, close to the top floor controller access cabinet next to the door-frame, or integrated into the door frame design. Mitsubishi (for example) even moved their new MRL drive and control to the pit and bottom landing area, so that you do not have to walk up say 12 or 20 floors when the lift breaks down, but just down one or two basements.

With the EN81 manufacturing standards' code, the multi-nationals have reduced their previous wide 'engineered' standards to fewer off-the-shelf products in an effort to reduce costs and delivery times. You can still opt for specials but at a premium of cost and delivery time in future.

To meet the new product range, their dimensional layouts have changed quite radically, allowing for the basic concept of a square car (Cwt at the back), deep or stretcher car (side Cwt), all with single entrances. These configurations are then extrapolated for dual through entrances, also where Cwts require over-speed protection (governor & safety gear) because of voids below their pits ... **all requiring additional space, which costs money.** All our current dimensional layouts have now become obsolete on the new product ranges. The new EN 81 and hence our SANS 1545:1 standards have also affected the pit depths and shaft-head overruns. What we previously considered to be the norm, now need to be verified with each supplier.

With the new product drives and controls have also come new traffic-study engines that we were not previously privy to, as these are always protected as proprietary right and guarded very jealously by the multi-nationals. We however managed to extract the latest figures from three of the Big Five on our new projects, which are most exciting. Although different in approach, the conceptual results were very close, in fact as low as decimals of a point. The whole above scenario has most effectively triggered a new-found excitement, which we will be happy to share with you through future issues of **Educom.**

Tangential to the above happenings, was the introduction into the new evolving *science* of **green star manufacture and installation requirements for lifts and escalators.** We received hot-off-the-press copies from two of the world Big Five last week on this. We understand that similar **dedicated green-star documents** are yet to be provided by the other opposition.

Discussions with a recognized **Green Star Consultant**, Jason Buch, indicated this branch of engineering or 'science', still to be

at its infancy as regards lifts and escalators, but major inroads have most certainly been made. This can most probably be ascribed to the **natural evolutionary progress in lift & escalator design and control.** There is however a recognized green-star rating for buildings, where lifts and air-conditioning (for example) form an integral part of the overall building's evaluation.

The above discussions and our on-site component evaluations and risk assessments over the past three or four weeks, have shown tremendous new developmental moves forward in **green science**, but not hitherto noted down in tabular form for comparison as far as we are aware.

We have become so excited by these revelations, previously just considered to be normal evolution ... Waiting for 'someone' to show us the way with new technical bulletins on the metamorphosis from the old power-usage technology to the new more conservative **green-rated technology.** If any of our senior colleagues have been involved in this new scenario, they have kept it to themselves as we are not aware of any such investigation and/or tables.

The focus of our research will be on the continuum shift to more effective power-saving drives and controls in both lifts and escalators, as after all, the fundamental golden thread running through **green science**, is the conservation of natural resources.

We were shown brochures on the concept of new 'hydraulic' buffers (as we know them), now being converted to **pneumatic** (or air), to negate the use of mineral and synthetic oils, as the latter still require natural resources to manufacture these oils.

We believe that armed with this knowledge, that **hydraulic lift drives** will now become the exception rather than the rule of a decade or so ago for low-rise applications. Two of the Big Five are also now converting to belted traction drives in an effort to save on steel ropes, even developing this technology applicable to speeds of up to 2,0m/s and maybe even 2,5m/s. Where standard rope-drive sheaves have diameters of say 600mm to meet the minimum *times-forty* to ensure longevity of rope life, the new belt-drives only require say 220mm, giving an automatic space-saving in headroom height, bringing civil structure costs down ... **a green saving in our opinion!**

**Where will this end - We do not know?
But will keep you informed**

*Always bear in mind that your own resolution
to succeed,
Is more important than any other one thing in your life!*
Abraham Lincoln

MICROSCOPIC NANOTECHNOLOGY

I was paging through a Civil Engineering journal in a major developers reception earlier this week before a meeting, when I noticed the seemingly out-of-place article under the above heading. I always considered 'nano' as indicative of a dimension ... **one millionth of a millimeter!** I never considered it to be recognized recently as a new *microscopic technology*, denoted by 'nm'. Why **nano** and not **micro**?

Nano-technology is focused at the level of atomic structure as opposed to **micro-technology** which is technically larger scaled. A DNS-molecule (for example in a criminal pathological examination) is 2,5nm wide. A human hair of the accused measured 80 000nm and could be microscopically photographed to derive a comparison with his other hair.

The article then explained how nanotechnology was assisting civil engineering researchers to manufacture new 'green' materials as a resource conservation measure. Natural mineral resources such as carbon, zinc and aluminium's chemical compounding, changes at nano-level, giving them higher electrical transmission capabilities with accompanied strength of material. By contrast *strength of materials* and *design of structures* at engineering level appear to be in a totally another world when one considers nano-technology.

It was in fact this same nano-technology which allowed the development of micro-processors and micro-technology PC boards where minutely thin copper-zinc-gold alloy conductors allowed power transmissions beyond their *normal* capabilities as we know them under normal wiring of premises, lifts and escalators.

Nano-technology allowed hard carbon to be converted at nano-level into liquid molybdenum, possibly the highest anti-friction efficiency lubricant used in mechanical engineering.

Aluminium used to make beer and cold-drink cans, combusts spontaneously at nano-level which makes it the major contributor to space-rocket fuel, which is why it has to be cooled down below zero before being pumped into rocket engines just before lift-off.

Reading through the article immediately took me back to my study days with matric science and chemistry, and chemical compound studies the first two years at varsity when we had to know the periodic table backwards, including the elements on the *periodic table*, their atomic weights and their bonding valences. It once again brought home the fact that all dead and living organisms and materials are nano-building blocks of nature and that it is our biblical obligation to protect these natural resources ... **Geneses 1: 26 to 30:**

26 Then God said, "Let us make mankind in our image, in our likeness, so that they may rule over the fish in the sea and the birds in the sky, over the livestock and all the wild animals,^[a] and over all the creatures that move along the ground."

27 So God created mankind in his own image, in the image of God he created them; male and female he created them. 28 God blessed them and said to them, "Be fruitful and increase in number; fill the earth and subdue it. Rule over the fish in the sea and the birds in the sky and over every living creature that moves on the ground."

29 Then God said, "I give you every seed-bearing plant on the face of the whole earth and every tree that has fruit with seed in it. They will be yours for food. 30 And to all the beasts of the earth and all the birds in the sky and all the creatures that move along the ground - everything that has the breath of life in it - I give every green plant for food." And it was so.

I wished that I could tear the article out or request a copy, because I did not finish reading it. It continued on investigation into endeavouring to solve South Africa's worsening water contamination problems; improving fruit and vegetable farming yields, etc., etc.

I wrote the webpage down for more information ... <http://www.etcgroup.org>. The ETC-Group are striving *inter alia*, to conserve and improve the ecological diversity of mineral resources and human rights, so look it up and read further for yourselves - I certainly will.

My colleagues know that I am an '*information junkie*'. The more I read and research new subjects on industry's latest developments and applications in technology; the latest research findings; continued education development, etc., the better I can perform my role as mentor and editor of *Educom*. This has possibly been the most rewarding aspect of the opportunity to broaden my knowledge base, network and professional relationships with local and overseas professionals.



Educom's primary benefit to our readers is access to the only platform in South Africa, with a dedicated focus towards the continued professional development of our respective lift inspection knowledge and skills!

Belonging to LIASA is not dissimilar to a gym membership - The more passionate you are; the more, active you become and exercise regularly, the more you will experience the great benefit that it exudes.



*“Nothing great and lasting in this world,
has ever been accomplished without passion
and an even greater sacrifice.”*

Nelson Mandela



EUROPE PROVIDES RESEARCH FUNDS FOR RENEWABLE GREEN ENERGY PROJECTS

France’s development bank AFD recently contributed bR1,5 credit facility to banks in South Africa to fund small to medium sized energy efficiency and renewable energy projects, the main focus being on **green natural resource conservation**. The banks included ABSA, Nedbank and IDC (the Industrial development Corporation)

The funding is based on a 12-year re-imbursable credit facility with no minimum amount specified. In addition AFD provide mR8,5 in technical assistance to address issues such as capacity building and technology transfer.

AFD has (for example) developed a sophisticated green carbon footprint that will allow project developers to assess the carbon footprint of their project to accurately calculate carbon emissions of power stations.

In a separate development Dr Andrew Taylor, MD of CAE Energy, stated that 200MW of power could be generated just from the RSA’s biogas-from-waste project, which is currently flared or wastefully discharged into the atmosphere. He warned that whereas they suggested a tariff of R0,96/kWh, Eskom would probably opt for R1,20 to R1,40 /kWh. Dr Taylor’s rhetoric was however not very promotional of Eskom’s efforts to date. This tends to happen when politicians overrule engineers?



MESSAGE FROM OUR LIASA CHAIRMAN

As the year draws to an end with a major milestone for our industry (the promulgation of the new regulations) I wish to officially thank those that have worked tirelessly and sometimes thanklessly, for their efforts. Armed with new powers, we sincerely hope that all Lift Inspectors will perform their tasks to the best of their ability and uphold the motto; “Do the Right Thing”.

It is also the time of the year for us to reflect. Reflect on our achievements and reflect on our disappointments. For our achievements, we must celebrate. For our disappointments, we must analyze, figure out what we did wrong and make sure we correct ourselves so that we do not repeat our mistakes.

For those of us that have lost loved ones during the year, our lost ones now lie in peace. Be happy for them for it is them that leave us with cherished memories. Incidentally, the person currently held captive by Somali pirates (Mr. Bruno Pellizzari) is an ex and respected member of our fraternity. We pray for his well being and safe return.

Most of us have plans over the festive period; likewise there are many of us who will be working the graveyard shift. Whatever your plans are, on behalf of the Executive of LIASA we wish you and your families a safe, happy and joyous festive season and may all your expectations for next year come to fruition.

**Kindest Regards,
Sanjeev Singh**



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for dissemination to all our colleagues around the RSA.**