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Volume 46 • Number 2 • Spring 2008

President's Remarks	6
Pre-Master's Course	8
Career Day	11
Job Pathways	12
Vocational Training	14
Compulsory Certification Review	18
Occupational Health and Safety Amendment Act	22
Bill C-45	24
Group Benefits	26
Energy Efficiency Contractors' Network	30
Trade Contractors' Business School	35
Industry Briefs	42
Toolbox Talks	46
New Products & Services	48



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Fred Black

President's Remarks

Compulsory Certification of Trades Enforcement is the Key

Prior to the October 2007 provincial election, the Ontario government announced a review of compulsory certification of skilled trades with the view of possibly expanding compulsory certification to a broader range of trades. Tim Armstrong has been appointed to conduct the review and is due to release his report in April. As I write this, he is conducting meetings around the province to accept input from stakeholders. ECAO has already submitted its brief and participated in the first "focus group" of stakeholders.

Jennifer Wilson's article on the review process and the Compulsory Trades Committee brief will give you a good understanding of the process and the ECAO positions on this important review.

Currently there are ten compulsory construction trades within the mechanical, electrical, sheet metal and hoisting engineer family of trades. In our group, Construction & Maintenance Electrician and Domestic & Rural Electrician are the two compulsory branches.

Over the years, we have noticed steady erosion of the scope of our trade due to two related factors:

- lack of enforcement of the trade standard by government, and as a consequence,
- government sanctioned exemptions to the trade requirements to accommodate fringe trades who have taken advantage of non-enforcement.

Most recently the Ministry of Training, Colleges and Universities (MTCU), granted exemption to the residential branch of the Air Conditioning trade to permit the air conditioning mechanics to wire up air conditioning units to existing panels. This was done without any consultation with the electrical contractor community or even the Electrical Provincial Advisory Committee of MTCU.

In the often heated discussions which took place following this unilateral decision by MTCU, several justifications for exemption were put forward including cheaper installations for consumers and no objective evidence that electrical safety will be compromised. Underlying it all, however, was the concept that:

"Well they've been doing it for years anyways, so what difference does it make?" That, in a nutshell, is the problem. That is the attitude that leads to the erosion of the trade and the depreciation of our trade ticket and business.

Trade overlap between two compulsory trades such as electrical and air conditioning is not as common as those between the compulsory trades and the voluntary or quasi-trades. Under the existing system it seems that the voluntary "trumps" the compulsory as MTCU officials take ever more expansive views of trade exemptions. It's almost as if the ministry officials are afraid to say "no" to anyone.

As I see it, Armstrong's review will benefit the compulsory trades if he tackles this vicious cycle of non-enforcement morphing into exemptions.

Enforcement must be vigorous, consistent and carried out by an enforcement oriented ministry or agency. Secondly, resolving trade overlaps and encroachments by other trades must be administered by an impartial, non-government body, including stakeholders, which can make the tough but authoritative decisions required.

Elsewhere in this "Training and Safety" edition of the Ontario Electrical Contractor you will find an article from COCA on another new development called Safety Accreditation being promoted by the WSIB as a way of rewarding contractors who achieve a measurable standard of safety success. Keep an eye on developments as this program has the potential to significantly improve the standing of accredited firms over others. ECAO contractors have been consistently among the safest employers in the industry and if the accreditation system is properly conceived, it should dovetail well with existing association and contractor safety programs.

I am sure you will find this issue informative and useful. As always, I look forward to your comments and feedback on the articles published here or on any other matter you feel ECAO can help you with.

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Upgrading the skills and knowledge of the Electrical Trade

By Wendy Reid

After at least four years of hands on experience as an apprentice, classroom instruction/theory, and a written examination, Ontarians are able to enter the workforce as certified, highly educated, electrical journeypersons in the electrical trade. Unfortunately, there are no mandatory requirements for upgrading their skills and many continue to work for decades with the knowledge that they learned in trade school. As the years go by, standards change, mainly for safety reasons, that many qualified electrical journeypersons are not aware of. Is there a danger in this? Likely, yes.

With recent legislation changes, the electrical industry in Ontario has seen a positive change with secondary training that is now available across the province. A Pre-Master Electrician course is now offered to anyone interested in upgrading their skills or for those that are preparing for the Master Electrician

Examination. When the Electrical Safety Authority (ESA) was designated to administer Province-wide Electrical Contractor Licensing under Ontario Regulation 570/05, they upgraded, with the assistance of industry stakeholders, the Pre-Master Electrician course that previously resided with the Electrical Contractor Association of Ontario (ECAO).

This training course is now offered through many community colleges as well as the ESA. The course has been designed to expand participants' knowledge and skills by reviewing certain sections of the Ontario Electrical Safety Code (OESC), Health and Safety requirements, Licensing and Business Practices as well as other current legislation that pertains to the electrical industry. Further information regarding the course can be found on the Electrical Contractor Registration Agency of the Electrical Safety Authority (ECRA/ESA) at www.esaecra.info

under Master Electrician Training & Exam.

Since October 2005, over 3,200 participants have taken the training through the ESA, not to mention the hundreds who have taken the course through the community colleges. So far the feedback that ESA has received is extremely positive. Many participants are even suggesting that this become a compulsory course for all electricians in the province. Perhaps this will become a way of the future? For now, it is an excellent tool to improve public safety and enhance the knowledge of electricians in Ontario.

Wendy Reid is Project Coordinator, Licensing & Certification, Electrical Safety Authority.

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CAREER DAY OFFERS EXCELLENT OPPORTUNITY

By Tony Fluri, LU 303

It's said that the best experiences come about when one goes outside his comfort zone. Thus it was when I was asked to man a career-specific booth at a local high school career day. Though this was not the first time that I had done this, it was the first time I was alone and not able to count on anyone else fielding "the tough ones."

It was at Eastdale High School and there was to be 450 – 600 grade 10 to 12 co-op students. Thanks to the excellent booth provided by the ECAO and set up by their representatives, the platform was professional, colourful and inviting for the students. That and the fact that I was close to the cooking school and the military, assured that I would have sufficient traffic throughout the day.

The day went quickly and I was impressed with the insightful questions that all the students asked and the level of interest that they had in both their co-ops and their careers. The organizers (JobGym) were extremely happy with our presentation and many students and staff commented favourably about our participation. This being the 5th annual career day, it was the first that had any electricians present and they assured me that they would be asking again next year.

Though I am an organizer and speak primarily to non-union tradesmen, I felt that this was a great opportunity to engage in organizing at the "grass-roots" level, while the students were still deciding about their careers and possible employers. I also see this as an excellent opportunity to utilize



the resources present in our retired tradesmen and an opportunity for their knowledge and "stories" to impact future generations of electricians, thus I will be calling for volunteers which I am sure will be answered.

Again I would like to thank the ECAO, who in partnership with the IBEW, helped make this a success and positively impact a future generation of skilled tradesmen.

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STRAIGHTEN OUT THOSE JOB PATHWAYS

By Judith Maxwell

According to young Canadians, “Some of us are more oriented to...hands-on and practical learning options.... But the education system, our parents and peers seem to devalue vocational trades and technology training.”

They add: “Society needs workers with these skills.”

This is straight talk from a representative group of young people participating in a 2005 Youth Summit hosted by Canadian Policy Research Networks (CPRN). These young people were in the middle of the transition from school to a career job. They knew from direct experience that the system is bogged down in bad assumptions.

We assume that if kids will just stay in school and get a degree, jobs will be there for them. That's true for nurses and doctors and a few other professions, but not for everyone else. We assume that most kids will go to university or college. But less than half of 20-year-olds do. And we assume that a job in the skilled trades is somehow inferior, even though an experienced carpenter or plumber can earn a six-figure salary.

A current series of studies under way at CPRN has plotted 20 different possible pathways from high school to work. Many of these pathways are “non-linear,” a polite word for chaotic.

Young people take a year off. They try one program and then switch to another one. They go to college and then switch to university, or vice-versa. All this churning around can mean money and time wasted, and some young people inevitably wind up feeling like failures.

The good news is that the CPRN studies are revealing revolutionary models which require complete rewiring of education and a new level of commitment from schools, employers, parents and governments.

Take the North Peace Secondary School in Fort St. John, B.C., as an example. In addition to the core academic program, it offers programs in automotive, construction, drafting and cooking. And it has the full support of the community and local employers through funding, equipment, work placements and mentors.

In the construction program, students build a home on land purchased by the school district and receive a dual credit toward high school graduation, as well as Level

1 apprenticeship training through Northern Lights College. And, by the way, the profits from the sale of the house pay for the program.

“These programs serve a group of students that are not traditionally well served by the school system,” said one assistant superintendent interviewed by CPRN. And when the students are not well served, they are more likely to take a pathway that proves to be a dead end.

North Peace Secondary's combination of trades training with high school is still a rarity in Canada. When Statistics Canada tried to trace the actual pathway experiences of young Canadians, there were not enough young people in trades programs to be able to report on them separately.

So it is absolutely essential to attract a bigger share of the high school population into vocational and technical training. With all the talk about the aging population, Canadians forget that we face a dearth of young people, just at the time when the bulge of older skilled trades people will be retiring and the number of new immigrants with these skills is falling.

The average age of newly registered apprentices now is 28, evidence that it has taken them a while to find a career option. The Canadian Council on Learning estimates that only about 50,000 apprentices register each year, and says there is no evidence that registrations are rising to meet the growing demand.

The North Peace Secondary example shows that part of the solution is to recruit early – in high school – and then offer students the opportunity to combine classroom study with work. But no secondary school, working alone, can make this revolution happen.

They need the following partners:

- Provincial governments have to open the way for schools and colleges to offer secondary school apprenticeships, and then provide funding to the schools to cover the extra administrative costs of finding work placements and ensure credit recognition by colleges and others. British Columbia, Alberta and Ontario are the leaders. But so far, not many schools have followed through.

– Employers have to collaborate through work placements, mentoring and technical support for instructors. They also have to become more transparent about their skill requirements.

– Parents have to be proud when their child chooses a trade or, even better, actively encourage their children to pursue a trade.



– Provincial and federal governments have to jointly create pan-Canadian skill standards to make these hard-earned credentials portable from one province to another.

It's all very well to talk about a knowledge-based society. There are many kinds of knowledge needed to keep the economy operating, including vocational and technical knowledge. Try running a home or a business without it.

Judith Maxwell is the former head of the Economic Council of Canada and the Canadian Policy Research Networks.



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Wonder Why You Can't Find A Plumber?

No One Wants To Train Them

By Judith Maxwell

Meet Nicolas Drouin, a 19-year-old chef-in-training from Quebec City. He earned the highest score of all 850 competitors at the World Skills Competition in Japan in November, as well as the gold medal in cooking. Quebec candidates accounted for 10 of the 14 Canadian prizes in such skills as welding, Web design, electrical installations and dress making.

Nicolas acquired his passion for cooking while working as a dishwasher at Le Saint-Amour, a highly regarded restaurant where he still works. He qualified for the World Skills Competition in 2006 when he won the Skills Canada competition for cooking. He then trained like an Olympic athlete to get ready for Japan, with intense coaching from his former teachers and his Saint-Amour colleagues.

The World Skills winners now have a credential that should lead to a good career. But, as I wrote in my last column (see page 12), the pathway from school to work in Canada is still a long and chaotic journey. Too many apprentices are dropping out. And the average age of a new apprentice is 28, when they could start ten years earlier if more schools and employers offered that option.

Readers of that column argued passionately that Canadians devalue vocational trades. "NOBODY," said one "wants to shoulder the burden of training."

They pointed their fingers at:

- Inadequate provincial funding for vocational programs at both secondary schools and colleges. This inhibits collaboration and articulation of programs from one level to the next;
- Public schools which continue to cut trades programs because of the high cost of equipment and lack of trained teachers;
- Employers that do not offer hands-on learning experiences through apprenticeships or other forms of work placements;
- Guidance counseling that ignores vocational choices. (This led one reader's son to drop out in despair, though she was proud to report that he eventually found success as a chef.)

Meanwhile, employers are crying out for workers with strong vocational and technical skills.

They know many of their existing employees will soon retire and that fewer immigrants with these skills are coming to Canada. Yet employers are not mobilizing to solve the problem, and there is no hope of success until they do.

Education systems around the world have expanded academic programs rapidly over the past 50 years, responding to a growing need for academic skills to fill the new managerial, professional and service jobs. In the 1950s, the premium credential was a journeyman's ticket; now it's an academic degree.

But the pendulum may have swung too far. A knowledge-based economy needs an extraordinary diversity of skills – including the practical vocational skills that keep both homes and businesses operating. Broad vocational training is also essential for incremental innovation in work processes.

Even Germany, where 50 per cent of young people still



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opt for the vocational track, has had to make substantial changes to its famous dual-track system to adapt to the changing nature of work. There is more emphasis on teamwork now, and highly specialized occupational profiles have been merged so that students gain competency in a broadly defined occupational area over a three-to four-year course. What hasn't changed is the mix of school and workplace training. Every student must still have a training contract with a company and attend classes two days a week.

Jean Charest, Professor of Industrial Relations at the Université de Montréal, says that the only countries that have successfully adapted their vocational systems are those, like Germany and Denmark, where the "social partners" – business and labour – were deeply involved in design and delivery.

So far, he sees no signs of renewal in Canada. At least three provincial governments are trying to strengthen vocational options at the high school level – B.C., Alberta and Ontario – but change only happens on the ground when schools, colleges and local employers develop and sustain the programs.

Canada's core problem is that education is highly decentralized and there are no strong institutional linkages to the labour market. Only 49 out of 300 apprenticeship programs in Canada have nationally-accepted vocational standards through the Red Seal program. Most Canadian businesses and labour unions are not engaged in design and delivery of vocational training, although 30 sectoral councils of business and labour co-ordinate on their industry's training issues.

There will be no real progress on vocational training in Canada until employers begin to take this on in a big way. They have to put themselves on the line – offering workplace experience to students and supporting schools to deliver the right programs. Only business leaders have the political clout to call educators, unions and provincial governments to account for gross neglect.

Nicolas Drouin had to go to Japan to prove his mettle. Future students should be able to win their vocational spurs right here in Canada.

Judith Maxwell is the former head of the Economic Council of Canada and the Canadian Policy Research Networks.

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Compulsory Certification Review



By Jennifer Wilson

The Review

In August 2007, the Ontario government appointed Tim Armstrong, public policy advisor, legal counsel, author and former deputy minister, to review compulsory certification in the skilled trades within Ontario.

The review, intended to address health and safety, new apprentice registration, the number of apprentices to complete trades training, consumer protection, costs and the overall impact on the economy, will be released in April.

Until January 25, 2008, Mr. Armstrong accepted written submissions detailing the impact of the expansion of compulsory certification on individual trades that are currently voluntary.

The Compulsory Certified Trades Committee (CCTC) prepared a submission for Mr. Armstrong, outlining its strong position that compulsory certification is beneficial to Ontario's labour force if implemented and enforced with rigour and in consultation with key industry stakeholders.

In particular, the CCTC, of which the Electrical Contractors Association of Ontario is a member, feels that overlapping skills policy that leads to exemptions to compulsory trade skills contradicts the intention and credibility of compulsory certified trades. This policy, believe the CCTC, works to saturate the skilled trades market with workers potentially lacking the proper training, knowledge, equipment and understanding to complete the task at hand.

The following reflects the position of the CCTC and its submission to Mr. Armstrong for his review of compulsory certification in Ontario's skilled trades.

Health and Safety

In March 2000, nineteen year-old Michael Skanderberg was electrocuted and killed after touching live wires while working on a lighting fixture with a Winnipeg company called Clearwater Electric.

The company, for which Skanderberg had been working for only three months, was fined \$27,500 in connection with the worker's death and pleaded guilty to failing to provide training and supervision on procedures for working with electrical equipment.

Workplace fatalities like Skanderberg's are unfortunately not a rare occurrence.

Failing to receive up-to-date and relevant training, unskilled workers are continuing to unconsciously place themselves in harms way.

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This is just one example of why the CCTC supports the expansion of compulsory certified trades in Ontario, but believes the issue of overlapping skills must be carefully scrutinized to avoid preventable worker deaths.

The Consumer

More often than not, the consumer is the innocent victim of poorly trained workers.

While preparing its submission to Mr. Armstrong, the CCTC was contacted by a consumer who shared his harrowing tale of a negligible job with potentially life threatening consequences.

After purchasing a new condo, the consumer hired a licensed contractor to upgrade the heating and ventilation system. While installing new ductwork, the licensed contractor found a tube inside the air vent which turned out to be a gas line.

Had the gas line gone undetected and leaked, it would have been circulated with the condominium's airflow – an extremely dangerous and life threatening prospect.

In reviewing the expansion of compulsory certified trades, the health and safety of the consumer and the public at large must be paramount. It is the responsibility of the government to ensure that the public is not blindly put in harms way and that workers are highly skilled in their trade.

Prioritizing the health and safety of the public by means of ensuring skilled trades people is in the best interest of government. It ensures, to the best of its ability, that the safety and health of the public won't be jeopardized by preventable workplace negligence.

The Economy

One need not look any further than the water contamination in Walkerton, Ontario to understand the catastrophic costs unskilled workers can cost governments and individuals.

In the spring of 2000, a terrible tragedy befell Walkerton, a quiet town in Ontario's rural heartland – in the form of Canada's worst-ever outbreak of E. coli contamination that resulted in seven deaths and hundreds of illnesses.

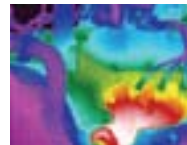
Following the tragedy, several leading health officials went on record saying it could have been prevented had proper procedures been followed.

Most shocking to Ontarians following the Walkerton tragedy was the fact that the problem with the town's water had been identified several days before the public was notified.

In 2002, a judicial inquiry was performed and two reports were released. Among the findings were the three important contributing factors in the Walkerton water contamination, including improper water chlorination of the water supply, a host of improper operating practices on behalf of the PUC, and Ontario provincial government cutbacks.

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Stan Koebel, former manager of the PUC, and his brother Frank Koebel, former foreman at the Walkerton Public Utilities Commission (PUC), were found guilty of the charges brought against them that included public endangerment, uttering and forgery and breach of public duty.

In addition to failing to properly dechlorinate, monitor, sample and test the water supply, the two brothers forged daily operating sheets and failed to notify both the Ministry

of the Environment, the Medical Officer of Health and the PUC of the contaminated water upon discovery.

Although they never had any intent to harm, the Koebels, negligent in discharging their duties, caused irreversible tragedy for the people of Walkerton.

The 2002 reports estimated that the Walkerton water tragedy cost a minimum of \$64.5-155 million. Among the other ramifications, real estate values in Walkerton fell a total of

\$1.1-million and lost revenues from May 1, 2000, to April 30, 2001, were estimated at \$2.7 million.

More than \$9 million was put toward fixing the town's water system, while the Ontario government spent about \$3.5 million on legal fees and another \$1.5 million to supply clean water to institutions.

The detrimental economic impact Walkerton had on both the provincial government and municipal government as well as the town's residents were catastrophic yet could have been avoided.

Although often argued that compulsory certified training costs governments money, it can also be argued that it saves governments a substantial amount of money in the long-term.

Examples such as Walkerton exemplify the need to develop new protocols and policies when dealing with overlapping trades. Economic repercussions of unskilled workers performing skilled trades need to be strongly scrutinized, taking into account the potential for crippling costs caused by poorly trained workers.

The economic benefits of whole trades, which provide a broadly-based skilled and highly trained workforce capable of understanding trades in-depth, needs to be evaluated when assessing economic impacts of expanding compulsory certified trades.

Whole Trades, by their nature, increase the general level of skill in the workforce and ensure a higher quality of craftsmanship due to a deeper understanding of the project.

This also benefits the tradesperson as it provides greater job security due to his/her understanding of the entire trade as opposed to a particular skill set, which limits job growth.

Skill set and partially trained workers (trade splintering) frequently lack the understanding of their trade to comprehend the impact of their work and the repercussions their particular skill may have on the entire project. This lack of understanding, despite not being intentional, can be just as catastrophic as intentionally faulty work.



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Underground Economy

New life has been breathed into the construction sector's underground economy since the introduction of the GST in 1991.

By their nature, underground practices allow contractors and workers to conduct their business out of the public eye and as such, often cut corners and use unsafe work practices.

This frequently results in a lower quality of final product and can cause more costly maintenance and repair.

The underground economy phenomenon has raised the cost of companies doing business in Ontario, to the long-term detriment of the provincial economy.

Contractors and workers who engage in underground practices can evade provincial taxes and charges by means such as "cash-deals" and by using the title of "independent contractor" to gain status amongst prospective clients.

The Environment

Top of mind for governments and the public has been the preservation of the environment for a sustainable and healthy future.

New training mechanisms and equipment has emerged in the skilled trades to reflect this shift in focus. Skilled workers are learning new construction methods that favour the environment and are quickly becoming accepted industry practices.

These measures, for the most part, are neither expensive nor difficult to learn, but are necessary to responsibly practice skilled trades into the 21st century.

Unskilled workers who lack up-to-date training and education often fail to learn these new techniques and, as such, are continuing practices that contribute to environmental degradation.

In Summary

The CCTC strongly believes that Ontario requires skilled trades people for economic and environmental prosperity as well as the health and safety of workers and the public at large.

Paramount to the implementation of new policies, regulation or legislation is the review of how the overlapping trades leads to exemptions. It remains the belief of the CCTC that overlapping trades, in most circumstances, defeats the purpose of skilled trades and continues to mar the image of tradespeople in Ontario.

The government needs to invest in the sustainability of its infrastructure

and the health and safety of its public. With this in mind, the government must not only consider the expansion of compulsory certified trades, if done with rigour and responsibility, but also the maintenance and integrity of existing compulsory trades and their enforcement.

Jennifer Wilson is a consultant/writer with OEB Enterprise.



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OCCUPATIONAL HEALTH AND SAFETY AMENDMENT ACT

(HARASSMENT AND VIOLENCE), 2007, BILL 29)

By Cheryl A. Edwards

Ontario's OH&S legislation has long required employers to take "every precaution reasonable" to protect workers. However, Ontario has remained one of the few Canadian jurisdictions where the occupational health and safety and workers' compensation regimes do not expressly address employer obligations to protect workers from workplace violence. On December 13, 2007, proposed legislation passed first reading in the Ontario legislature which would bring Ontario into the mainstream by amending the Occupational Health and Safety Act to increase employer responsibility for protecting workers from actual or threatened incidents of workplace-related harassment or violence.

Known as the Occupational Health and Safety Amendment Act (Harassment and Violence), 2007, Bill 29 would require an employer, in consultation with the Joint Health and Safety Committee or other workplace health and safety representative, to prepare, as part of its occupational health and safety policy, guidelines and processes for identifying, eliminating and dealing with incidents of workplace related harassment or violence. It would also require every employer to develop and deliver regular harassment and violence prevention training.

Violence would be broadly defined to include threatened, attempted or actual physical force, and threatening statements or behaviour that reasonably lead the worker to believe he is she is at risk of physical injury. Harassment would be defined as a vexatious course of conduct which is known, or ought reasonably to be known, to be unwelcome and which may adversely affect a worker's psychological or physical well-being.

Bill 29 would give workers an express right to refuse the work where there is reason to believe that a danger is likely posed by workplace related harassment or violence. It further prescribes that where workplace related harassment or violence occurs or is likely to occur, the employer must ensure that the source of the harassment or violence is identified and prevented or stopped, and contact law enforcement where appropriate. Employers would also have an explicit obligation to ensure that adequate steps are taken to remedy the effects of the harassment or violence, and to compensate workers for any absences related to the

harassment or violence that are not compensated under workers' compensation legislation.

Bill 29 is a private member's Bill. Often such Bills do not achieve full support and passage. However, the introduction of Bill 29 follows a joint province-wide initiative by the WSIB and the Ontario Ministry of Labour over the past year to prevent workplace violence. Under this initiative, Ministry of Labour Health and Safety Inspectors have exercised their authority to make orders and issue directives to employers in "high risk" industries where the employer has not established a workplace violence prevention program or an existing program is deficient. The government's commitment to strengthening anti-violence workplace initiatives through this project, and the successful first reading of Bill 29, suggest that Ontario is now poised to join the majority of Canadian jurisdictions in recognizing workplace violence and harassment as matters deserving of protection under occupational health and safety laws.

Cheryl A. Edwards is a former Ontario Ministry of Labour OH&S Prosecutor and is Lead in Heenan Blaikie's national OHS and WSIB Practice Group. Cheryl has more than 20 years of experience providing strategic, focused, practical advice and in-house training for public and private sector organizations. She also has extensive experience representing clients at trials, complaints, inquests and appeals. She focuses her practice on OH&S law for Canadian business owners, managers, and supervisors. For more information, you can contact Cheryl at: Email: cedwards@heenan.ca, Direct Line: 416 360.2897, Cell: 416 452 4958.

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CANADA'S FIRST CORPORATE CRIMINAL CONVICTION

FOLLOWING BILL C-45: CORPORATE OH & S DUE DILIGENCE BECOMES EVEN MORE IMPORTANT

By Cheryl A. Edwards

Enforcement of OH & S regulatory laws continues to become more stringent and penalties for breaches continue to be more severe, with each passing year in Canada. Along with this regulatory environment, the amendments to the Criminal Code of Canada passed under Bill C-45, and which came into effect in March 2004, must not be forgotten. Bill C-45 introduced new duties for organizations, including all Canadian corporations, to take all reasonable steps to prevent bodily harm to persons, including workers, contractors, and the general public. Bill C-45 created the possibility that government enforcers could arrive at the scene of a workplace accident and charge a corporation, its supervisors, or other representatives, with criminal negligence as well as regulatory OH&S contraventions.



A significant recent development is Canada's first corporate conviction arising from a workplace accident, on charges of "criminal negligence causing death," as now permitted

under the Bill C-45 amendments to the Criminal Code. On December 7, 2007, a corporation, Transpavé Inc., entered a guilty plea to criminal negligence charges arising from a workplace death in Saint-Eustache, Quebec in 2005.

We have seen regulatory OH&S investigators repeatedly encourage the police and criminal crown attorneys to prosecute organizations for "criminal negligence" following tragic workplace accidents, without success. This conviction may signal an opening of the gates to more criminal charges, along with regulatory OH&S charges.

Transpavé Inc. is a manufacturer of concrete blocks. In October 2005 a 23-year-old worker was fatally crushed after entering a moving area of a machine that stacks blocks, while attempting to clear a jam.

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The machine was equipped with a light curtain guarding system which should have interrupted power to the equipment as the worker approached it. Investigators from the Quebec workplace safety enforcement body (La Commission de la Santé et de la Sécurité du Travail) concluded that the light curtain system was disabled at the time of the accident, and further, apparently had been disabled for the majority of 2004 and 2005. Investigators reportedly concluded that the worker was not informed of the dangers associated with entering the area and moving or attempting to unjam the blocks. Investigators also concluded that a member of management had noted in the past that the light curtain guarding system was disabled but did not take any action to address the situation.

The corporation pled guilty in Saint-Jérôme, Quebec, to the charges of "criminal negligence causing death" under the Criminal Code of Canada. At the time of writing, the corporation Transpavé was awaiting sentencing on February 26, 2008. Limitless fines are available for an organization convicted when the Crown proceeds by way of an indictment.

This development highlights the importance of due diligence steps in relation to workplace activities for all corporations and their representatives. We suggest a due diligence checkup in key areas to assess whether your organization is taking the care expected, or whether your organization, its supervisors, managers and other representatives are at unnecessary risk of "criminal" or OH&S regulatory conviction. Are OH&S legal requirements and audits conducted and acted upon promptly with recorded directions for corrective action? Do written policies and procedures for hazardous activities exist? Is there compre-

hensive recorded worker and supervisory training in safety procedures? Do supervisors monitor and enforce safety standards and procedures and record these steps?

Cheryl A. Edwards is a former Ontario Ministry of Labour OH&S Prosecutor and is Lead in Heenan Blaikie's national OHS and WSIB Practice Group. Cheryl has more than 20 years of experience providing strategic, focused, practical advice

and in-house training for public and private sector organizations. She also has extensive experience representing clients at trials, complaints, inquests and appeals. Both focus their practice on OH&S law for Canadian business owners, managers, and supervisors. For more information, you can contact Cheryl at: Email: cedwards@heenan.ca, Direct Line: 416 360.2897, Cell: 416 452 4958.

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As an entrepreneur, you face a lot of challenges. In our previous articles we talked about succession planning, organizing for retirement and a number of other issues with respect to planning. In this article we would like to address the subject of Group Benefits.

Over the history of employee benefit plans there have been a number of changes in how we deal with our employees. As you know, it is a fine balance when running your company between profit and loss, with employee costs being a large component of this formula. Rather than looking at just the cost of an employee, maybe we could look at the equation from what productivity an employer brings to the table and how we can attract and retain top flight employees.

Once we have great employees we can then strive to keep them well and productive. We can also provide security for them in their positions at work and in their life. How do we do this? There are a number of strategies that we can develop with the help of an employer benefit plan. These plans are endorsed and supported financially by the Federal and Provincial Governments and are tax effective.

Many people look to their employers to provide security for them and their family. This moral feeling of caring can be expressed in simple terms by some of the basic

benefits that have been around for a long time. Let's look at some of the basics, what strategy you could follow and some of the new and exciting products available in the marketplace.

Before we look at these products, keep in mind these plans can vary among employers depending upon their financial situation and nature of their particular company. Some plans contain a benefit counseling service which can be a great help. If you are an ECAO member, this service is complimentary as part of the Skipwith & Associates group benefit plan.

Group Life

All Group Life Insurance in Canada is a tax free benefit when received. All or some of the premium is a tax-free benefit to the employer. When an employee dies, the family typically looks to the employer for some financial assistance. The amount of coverage provided can be a flat dollar figure or a multiple of income depending on how you as the employer feels. Other life benefits include dependent life, where coverage is available for spouse and children. Accidental Death and Dismemberment coverage is another common feature to group plans. In some cases employers offer the option of extra Life Insurance which is paid for by the employee.



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Group Disability

Employees are quite used to receiving cheques from their employer. When they are off for any reason, coverage is available using short and long term disability programs. These can be integrated with government programs which most employees and employers find to be very inadequate on their own. Many executives are victims of reverse discrimination where their benefits are vastly inadequate considering their income. A consultation with a benefit plan advisor may be necessary when designing a plan for your company, because of the complex nature of the tax effectiveness available to you as a principal and to your employees.

Health Plans

Employees have gotten used to having health care paid for them in Canada. Provincial health plans cover the basic doctor and hospital care but not medications and out of Canada coverage as well as many other necessary items when problems strike. Private group health plans come to the rescue in these circumstances and play a big part in helping your valued employees return to good health. If your employee is working, but not well, then productivity will be an issue for you as an employer. These plans are fully tax-deductible to you as the employer and benefits are tax-free to the employee.

There are a number of methods to help you control your costs in this area. They include drug cards, deductibles and co-insurance, managed formularies and generic substitutions, and drug maximums of the plans chosen. All of these options make it possible for you and your consultant to build an appropriate plan for you.

Dental

Other benefits in this category include dental insurance. This provides another tax effective way to keep your employees healthy and thus productive. Dental plans provide layers of coverage and the plan you require should be determined by you and your benefit plan advisor.

Employee Assistance Plan (EAP)

One of the popular benefits offered in today's marketplace include Group EAP plans. These plans cover you for a number of services and do so immediately and confidentially. Some of the things that EAPs cover include:

- Achieving personal well-being
- Managing relationships
- Getting legal clarity

- Getting financial clarity
- Researching child and elder care resources
- Addressing workplace challenges
- Tackling addiction
- Understanding nutrition
- Getting healthcare advice

The EAP is today's wellness tool that you might want to consider for your group plan.

Group Critical Illness

Critical Illness coverage is one of the hottest products in the marketplace today. It provides capital for your employee to deal with a critical problem such as a heart attack, coronary artery bypass surgery, stroke, or cancer. You can offer your employee or their beneficiaries standard or enhanced coverage which may offer financial support at a critical time.

Group benefits continue to provide excellent protection for many of the challenges that your employees may face. It may help them feel loved and cared for, secure in their roles as employees for you. It should help you attract key people, retain them and protect them in the event of unforeseen challenges that they may come up against in their careers with your company.

As we progress, new products are being developed by the industry. There continues to be co-operation from the governments to provide tax preferential treatment of these products and continued support for the spirit of co-operation between employer and employee. This relationship is vital to the success of all companies and ensures a strong source of competent employees to move towards achieving your company's goals and dreams.

As you can see from the number of plan designs and options, it is wise for you as a company owner to sit down with a competent benefit plan advisor to determine the combination of benefits which is right for your company.

This is the fourth and final article in a series provided to help you gain some insight into how you can integrate your personal goals with your business plan. For additional information, please contact Skipwith & Associates 1-866-529-2988 or info@skipwith.ca, www.skipwith.ca.

CONNECTING ECAO CONTRACTORS TO AN EMERGING MARKET

By Bob Bach

The Energy Efficiency Contractors' Network (EECN) was formed in early 2006, and has as its members, trade associations representing contractors in the mechanical, electrical and building envelope fields, including ECAO. These contractors offer their services to customers in a variety of sectors. In total, these associations have over 2,000 contractor members. The mandate is to bring a focus on energy efficiency to trade contractors in the services they provide to their business customers, and to provide a business opportunity that they may not currently be capitalizing on.

In Ontario, there is an ever increasing amount of resources being devoted to energy efficiency (EE), particularly in the electricity sector. Much of this appears as programs offered by gas and electric local dis-

tribution companies (LDCs) that provide incentives to end users to reduce their energy consumption, mainly through the adoption of newer EE technologies and better operating practices. There is, however, little coordination between these programs and members of the contracting sector that are required to install and maintain these EE technologies.

Small and medium enterprises (SMEs), defined by Statistics Canada as having between one and 499 employees and less than \$50 million in annual sales, represent a key part of the Ontario business landscape. Businesses in this category:

- Constitute over 99 per cent of all businesses in Ontario
- Number about 350,000



- Employ 60 per cent of the work force
- Contribute more than 40 per cent of GDP
- Half own their premises; half lease
- Represent the most difficult market to reach for energy efficient products and services.

Contractors already serve SME customers, offering a variety of upgrade/retrofit and repair and maintenance services to this sector. Experience has shown that business owners are more likely to invest in EE technologies, especially when they are recommended by a contractor with whom they have an ongoing business relationship and in whose knowledge and experience they place their confidence.

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EECN has adopted the following vision and mission....

Vision: To be the contractor associations' primary resource for developing business practices that increase contractor profits through the expanded sale of facility renewal services that increase the energy efficiency of their customers. EECN will support contractor associations in building or enhancing partnerships between contractors and resources such as utilities, governments and manufacturers.

Mission: To provide information and support for contractor associations in delivering EE training, recognition for EE qualified firms, and access to programs of financing and incentives for their members' customers. This support will encourage and enable members to expand their businesses by delivering retrofit, replacement, operation,

maintenance and repair services to SME customers in a manner that results in higher levels of energy efficiency, occupant comfort and productivity. These activities will enhance the value of membership in the associations.

In order to achieve the vision and implement the mission, EECN has now developed a training program and an Internet based information portal through funding received from the Conservation Bureau of the Ontario Power Authority (OPA). This training program presents:

- methods for understanding how energy is used by SME businesses,
- how to quantify that energy use in each category,
- how to prepare an energy efficient retrofit proposal that will appeal to these business customers,

- how to access incentives from gas and electric LDCs as well as governments and other agencies in an organized manner from one central source.

In addition, representatives from local electric and gas LDCs are invited to make a presentation on their programs, and to meet the contractors in their area.

This training program is being presented across Ontario from January to April, 2008. Results from the sessions held so far have been universally positive, with contractors confirming the usefulness and applicability of the program content and the information portal.

The training program schedule and other details can be found by contacting your contractor association, or by visiting the EECN website at www.eecn.ca.

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Energy Efficiency is Good Business

Are you a contractor serving the small to medium enterprise sector looking for a competitive “green” edge?

The Energy Efficiency Contractors' Network (EECN) represents contractor associations and their service partners with an interest in delivering energy efficiency through contractors in Ontario.

The EECN was created to provide contractors with information on technologies, techniques and incentive programs to help them design and deliver energy efficient products and services to the small to medium sized enterprise (SME) sector.

The EECN believes that capitalizing on the environmental movement is more than just reducing energy costs for a client—it's about strengthening the contractor-client relationship for future business.

Follow the 4 Steps to Becoming a Qualified Energy Efficiency Contractor:

- 1** Participate in the EECN one day energy efficiency training workshop,
- 2** Become qualified and knowledgeable on energy efficient characteristics of specific building types and technologies that fit your trade expertise,
- 3** Access the exclusive EECN energy efficiency database for the one-stop-shop of incentive programs, and
- 4** Offer complete service to customers by identifying and providing Energy Saving Solutions



ENERGY EFFICIENCY CONTRACTORS' NETWORK

The Energy Efficiency Contractors' Network in partnership with the Ontario Power Authority (OPA) has created a new **one-day training workshop** to teach contractors how to capitalize on the growing concern for the environment.



Participants of the EECN Training Workshop will receive:

- comprehensive information about techniques used by energy management firms to identify potential energy efficiency opportunities, quantify the annual energy cost savings and evaluate the capital investment
- the ability to offer complete services to their customers
- access to an exclusive central database of local distribution carrier incentive programs that are targeted to the SME sector (searchable by both incentive type and geographic location within the province)

For more information on the EECN or training workshop dates and locations, please visit **www.eecn.ca**





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Earn More Profit While Having More Time Off

By M. Lynne Jacob



You know how some trade contractors are overwhelmed by the demands of

- getting each job done,
 - while getting more lined up,
 - dealing with staffing issues,
 - customers' demands, and
 - controlling cash flow,
- which means that you
- have no time to relax,
 - are stressed about money,
 - and disillusioned by a lack of enthusiasm for your business?

The biggest challenge is running a business.

Contractors are great at their trade but who would expect trade contractors to be good at running a business? You went to trades school or the school of hard knocks, not business school. Right?

I've learned how difficult it is to start, run and grow a business the hard way myself. I had no idea, until I launched my business, how easy it is not. I've studied and learned tons about running a business since 2003. I've learned that there are three departments in every business... in every industry, even construction. Whether it be a one-man band, a partnership or a big corporation, these departments exist. Now, the big challenge for us one-man-band companies is "how do I become all three departments by myself?"

First, it's important to know the departments:

Administrator: For me this was simple. I started my adult work life as a legal secretary and bookkeeper and developed into a legal assistant, bookkeeper, staffing and training officer and operations manager. I had scads of experience in preparing documentation, keeping accurate records, and clear communication. After all, in law every document, even letter, you ever prepare always needs to be clear enough for any judge to read, understand and rule in the writer's favour – not so different from WSIB and MOL, right? Organization is one of my strengths.

Technician: This is the job part of your business. For me, it's being a coach and a trainer. We pretty well all go into business for ourselves because we're great at our jobs.

For some it's because you're tired of putting up with the crap from your boss, or maybe it's just because you're so good at your job that you have lots of work coming at you already through word-of-mouth.

We all have our reasons, but it's pretty well always the "technician" who starts his own business. I've heard of no one in the trades who's said: "Gee, I just love bookkeeping and invoicing so much I'm going to start my own contracting business." Similarly I've yet to hear a trades contractor say: "I went into business for myself because I savoured the thought of marketing and sales...and wondering where the next customer was coming

from. It's something I just didn't get any of as an employee so I decided to go out on my own."

Entrepreneur: This is the visionary, the person in your business who sees where the business can be. This is the person who does the planning to grow the business, the person who plans planning time into his calendar, the person who decides on which niche your business will fill, the person who does the marketing of the business – getting your name out there, creating name recognition, rubbing shoulders with all your prospects, creating opportunities for your business.

The entrepreneur is the person who turns your self-employed job into a viable business – a business that works even when you don't, giving you recreation time:

- in which to re-create yourself;
- in which to rest, play and rejuvenate (definition: to become young again, right?)

The entrepreneur is the person who prepares the business for your retirement, making it:

- a business worth something to a purchaser when you're ready to let go of it all, or

- a business that runs with much less effort on your part, with powerful teams doing their jobs well.

Whether you like it or not, if you're a one-man-band, or a sole-proprietor with staff, these three hats must be worn by someone – you! Look at each of those positions as if it were putting on a different hat each time. Which hat fits you the best?

My advice: Stick to what you do best and hire out the rest.

In my own business this equally applies. It applies in every business, in every industry. In the early days, when I had the time, I worked on my website. I worked with someone to create it and I updated it. This was not the best use of my time and it didn't take long for me to not have enough time to wear all three hats frequently enough. Therefore, I hired out my website management.

Immediately after starting to work with someone to recreate and manage my website, I realized how much dealing with my website had been bogging me down. It felt fantastic each time I received an e-mail from my web developer to have me review what she'd created in response to my instructions.



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The next step, within very few weeks, was to find someone to relieve me of several of the administrative tasks. While I'm great in administration, there are others who can do it equally well or at least well enough. I have confirmed, however, that others cannot be the entrepreneur for my business, nor the technician (not yet, at any rate).

As I knew would happen, (which gave me the strength and conviction to make it happen) handing over tasks that others could do freed up the entrepreneur in me to grow my business.

You may be able to wear all three hats but you can't wear all three of them and grow your business.

By removing what can be done well enough by others, you are creating space in time and energy to create more opportunities for your business.

The first opportunity you may be creating is time to rejuvenate. Tell me: What good is a rechargeable battery if we never take the time to fully recharge it? Like the first rechargeable household batteries that came on the market, you needed to fully recharge them each time or you would affect the amount of charge the battery would take in the future. This meant that if you only partially recharged the bat-

tery, eventually the maximum charge it could take was only a partial charge.

This is what I see many contractors doing to themselves. Being the technician throughout the day, the entrepreneur during the evening and the administrator at GST time allows you insufficient time for recharging your battery. Do you find yourself taking pain pills or a couple of stiff shots to get a good night's sleep?

What would have to happen in your business for you to:

- double your vacations, or
- take at least one two-week vacation and three smaller vacations over the next year?

While you may be arguing that this isn't possible, I suggest you prove it before you allow yourself to believe it. One of my clients had taken his first vacation in six years just before we met. That "vacation" was Christmas in Florida with his family ... and they drove. While it was a positive step forward because it got him away from the business, it is not a vacation. A real vacation is where you remove yourself from many of the roles you play, where you have fun, where you rejuvenate yourself.

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Earn More Profit While Having More Time Off

Not only did this client have two long weekends and two week-long vacations in 2006, they took a winter cruise which his wife had only ever dreamt of before. In fact, given the exercise to plan these vacations, it was his wife who first presented the reasons why it couldn't happen. By focusing on the cruise happening, those reasons proved not to be obstacles after all.

We always believe things that aren't true. We, in the coaching industry, call them "limiting beliefs." Which beliefs do you have that limit your success and your freedom?

Identify them. Then prove to yourself, as if you were proving to me, that these beliefs are fact. I have yet to have a client successfully prove a belief to me. When trying to turn that belief into knowledge, they fail every time – to their delight, of course. Just imagine how hard-done-by the couple above will be while totally away from the business just resting, relaxing and playing for an entire two weeks, knowing that his powerful support teams, which he's been strengthening while we've been working together, can handle everything back at the ranch.

Knowledge is Power

To help you get past your limiting beliefs, here's a simple little measuring tool for you to carry with you in your pocket. Now, this measuring tool was created by me. There's no scientific research to back it up. I've created it from the work I've done and the experiences I've had over my lifetime. In my quarter-century career in law, everything there was based on fact or probability of fact. I'd say this is the basis for the creation of this tool.

Think – On a scale of how much knowledge there is in a thought, I measure "thoughts" as having more knowledge than not, so I put them on the scale at 51 per cent. There's some knowledge from somewhere in your mind to have created this thought, but when asked to prove the theory we're at a loss for facts to substantiate it.

Belief – I put this on the scale at about 85 per cent. When I believe something, I can usually tell you where this information is coming from, though I haven't tested it myself in the particular situation I'm bringing it into.

This is usually where we stop ourselves from creating opportunities to make changes in "the way

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we do things around here.” You may be hearing of how someone else did something similar in his or her business and it failed; or you may be remembering how you had a bad experience in the past implementing change.

Regarding the other person’s experience: How do you know every detail about the situation? Since it wasn’t you, I know you don’t. If you have an idea for moving your business forward, work with your idea and don’t impose another’s experience onto yourself.

If you’re recalling an unsuccessful experience of your own, was it addressing the same situation as today? Has nothing changed between now and then? What did you learn from that unsuccessful experience that you could and would change this time?

Knowledge – This is 100 per cent. When I ask my clients to prove their beliefs to me, such that we can take the belief from 85 per cent to 100 per cent on the knowledge scale, they always gain knowledge... which is very powerful. They could learn that their belief is, in fact, knowledge so as to spend no more time wondering about it. This has never happened with my clients, however. In fact, when my clients have been put to the test to prove a belief to be a real unmovable obstacle, what they learn is that it isn’t an obstacle after all (e.g. my clients who have booked a cruise for the winter).

Over time, we’ll be discussing the following seven strategies, which are key to every successful business:

- Design your creation: Construct a powerful three-year vision.
- Map out the route: Plan the time to plan.
- Follow through: Hold yourself visibly accountable.
- Take back your power: Control your finances.
- Empower your support: Lead a championship support team.
- Get referrals from impressed clientele: Empower your customers to do your marketing
- Get a life (outside of the business): Love what you do and do what you love.

Only by knowing (neither thinking nor believing) what it is will you recognize your vision when it materializes. Most small business owners, in every industry, react to daily issues. Trade contractors tell me they feel like they’re putting out fires, running around like a chicken with its head cut off, or like a dog chasing its tail.

By creating systems – such as going on a retreat every single year, like I just did – to map out the year ahead of you and review your three-year vision, making necessary amendments, you won’t find yourself in any of the colourful phrases above. Instead, you’ll be executing the systems, as will everyone else in your business.

You’ll be planning and reviewing your plans for

- Each day
- Each month
- Each quarter
- Each year, and
- Each three years.

By creating systems and implementing these strategies, you’ll be strengthening the foundation of your business so that it can support the floors you put on top of the foundation.

“One of my clients had taken his first vacation in six years just before we met.”

So, until next time, I leave you with this assignment:

Plan out all of your vacations over the next 12 months. Dare to put them into your calendar. Everything else will just fall in around them.

When assigning this exercise, I often get asked by trade contractors especially how frequently I get away. It doesn’t really matter. What does matter is that you get away more frequently than you currently do. Jump right to the optimum number of vacations, if you’d like...or start slowly by simply increasing them. Each year you’ll increase them yet again. How frequently do I get away? Once a season for relaxation and at least twice a year for continuing education because I love to learn and knowledge re-energizes me.

M. Lynne Jacob, business success coach of MLJ Coaching & Consulting offers a year-long coaching and training program for contractors and their teams to help them get back to doing more of what they love to do, while they earn more profit while having more time off. For more information visit www.TradeContractorsBusinessSchool.com, e-mail Lynne@mljcoaching.com or call 613-353-9941.

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Industry Briefs

Pascale Daviau – Director, Business Development and Product Innovation



Pascale Daviau

Mr. Michael Kenney, president, Thomas & Betts Canada, is pleased to announce the recent appointment of Pascale Daviau to the position of director, Business Development and Product Innovation.

This new appointment reflects Thomas & Betts' continued commitment to and investment in the development of innovative new products and services for the Canadian market.

A member of the Thomas & Betts Canada family since 1987, Pascale has fulfilled a number of key roles within the organization including Director of Marketing and most recently, director of Business Development.

In this newly expanded role, Pascale will work closely with product engineering, technical documentation and technical liaison to direct the new product development and execution process, ensuring the timely introduction of innovative new products and services that bring added value to T&B customers, end-users and specifiers.

Thomas & Betts Canada is a leading manufacturer of electrical components used in construction, industrial and utility markets. The company is also a leading producer of commercial heating and ventilation units and highly engineered steel structures used primarily for utility transmission.

Nedco Additions

Nedco recently announced two additions to their GTA management team. Scott McMillan has assumed the position of GTA district manager/contractor sales manager. His

competitive spirit and drive to succeed will have a positive and immediate effect on the Toronto district, says Larry McIntosh, general manager, Nedco Ontario.

Scott Watkin has assumed the position of Keaton branch manager. His commitment to customer service and knowledge of internal operations are skills that he brings to his new role.

Customers will benefit from the professionalism and experience that both have developed throughout their careers, says McIntosh.

Lightpoint Courses

Lightpoint Canada is offering lighting courses taught by experienced lighting professionals who bring with them years of product and industry knowledge.

Topics for courses being offered in the Toronto area include:

- **Lighting Essentials.** Level: Fundamental. Covers fundamentals of light, vision and colour; lamp and ballast technologies; system operating characteristics; basic lighting applications and reference tools.
- **Lighting Certified – L.C. Examination Study Workshop.** Level: Advanced. Live online course to assist participants in focusing their study efforts as they prepare to write the Lighting Certified Examination in November 2008.
- **Lighting Design and Application.** Level: Intermediate. Covers visibility and colour, lamp technology and applications, human factors in lighting design, luminaires and optics, two common lighting calculation methods with software demonstration, lighting controls/regulatory issues and developing lighting specifications.
- **LED Lighting Application Workshop.** Level: Fundamental. Covers LED technology fundamentals, LED light and colour metrics, the application of LED technology in commercial and residential applications, and lighting design with LEDs.

Toronto area courses will take place at Lightpoint OSRAM Sylvania Canadian headquarters at 2001 Drew Road in Mississauga. For further information and registration visit <http://www.sylvania.com/LearnLighting/LIGHTPOINT/LIGHTPOINTCanada/>.



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Section 1 Integrated Building Systems has easier-to-use tables.

Section 2 Conduit, Raceways, Fittings and Related Items has an expanded listing of supports and fasteners, and fireproofing material.

Section 4 Switchboards, MCC's, Panelboards & Power Equipment contains many new items including a greatly expanded emergency generator and UPS area.

Section 6 Wiring Devices includes an expanded listing of devices and cover plates.

Section 7 Hazardous Systems now includes new switching and wiring device data.

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Goals of ergonomics

- Reduce fatigue, which causes inattention and subsequent injury.
- Reduce long-term strain on tendons and connective tissue.
- Structure tasks such that they allow for good posture, thus reducing acute and chronic injuries.
- Reduce manual handling hazards.

Approaches you can take

Warm up before a lift. Your body does not have an “instant on” switch. Just like a car, it needs to warm up before being put to hard use. Use mild stretching and mild tension exercises that approximate the intended movement. Otherwise, you may just pop a gasket.

Reduce the amount of load by disassembling or isolating an object. For example, if you must move a filing cabinet, take the drawers out.

Supplement your lifting by asking someone to help you. Lifting an object by yourself requires balancing and motor skills not required when you have help.

“Think through” a lift before performing it. Check your posture and position your feet for good stability.

Eliminate the need to lift by using equipment to do the work.

Eliminate the need to carry, if you can. Use a cart, lift truck, or other conveyance.



Maintain good housekeeping, especially in areas where you or others might need to carry something. This means cleaning up spills immediately, making sure mats and rugs lay flat, and removing obstacles from pathways and aisles.

Pay attention to your fatigue level. If you have been pulling 500 MCM cable all morning, you have probably pushed all of your major muscle groups close to their limit. If you then run 4-inch rigid overhead, you are probably at a much higher risk for injury to your rotator cuff or back than you were in the morning. Most tasks can wait until the next day. If you're unsure, discuss your fatigue with your foreman.

Try to rotate and vary tasks throughout the day. This is a proven approach to allow recovery time to liga-



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ments that would otherwise get inflamed. For example, you might work on the crew pulling the 500 MCM cable for the first pull, then do terminations until the third pull. If your foreman seems to run you back and forth between tasks, this rotation is what she or he is trying to accomplish. Notice how these tasks use different muscles.

Look at the work ahead and suggest ways to reduce physical stress. Your foreman depends on your input for the crew to complete the work injury-free.

Use power tools, such as powered crimpers, whenever practical.

Use ratcheting tools – ratcheting wrenches instead of box ends, ratcheting screwdrivers instead of plain ones, and so on. Be watchful of tools that produce vibration.

Other considerations

Electrical work, by its nature, is hard work. It involves a great deal of lifting, squatting, bending and carrying. Most seasoned electricians have unusually well

developed forearms due to the tools they use and the loads they lift. But not all electricians are in good overall shape, and being out of shape leads to injuries. Take care of your fitness when you are off the job, so you have it when you need it most on the job.

Every building is only as strong as its foundation; every tree only as strong as its roots. Take a look at your shoes. Do they provide good support?

Always remember that nobody cares how much you can lift. What they really care about is that you'll be able to see the job through to completion. Asking for help is smart, and it makes the person you ask feel valued.

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Electronic In-Wall Time Switches

Intermatic recently released four new series of electronic in-wall time switches to free up shelf space for distributors and provide added specification flexibility for installers.

All models automatically switch loads with guaranteed accuracy and astronomic programming can be combined with independent programs to provide sunset on and timed off settings. The EI600 and EJ500 Series provide astronomic programming (sunset on and sunrise off settings) to eliminate the need for additional control devices.

The EI15MH Series is an energy saving timer and is designed to replace any standard wall switch (single or multi-gang) and automatically limit the on time of incandescent or fluorescent lighting loads. This compact solid-state design with silent operation provides two-way operation with immediate switch off or a time-delayed off after 15 minutes.

The EI200 Series timers provide silent operation in time ranges from five minutes up to 12 hours and replace single-pole switches in a variety of applications. Six basic models, available in white, ivory and light almond, reduce the need to stock multiple timers. The hold feature on select models turns the load on until manually turned off. EI205 and EI215 Series offer the same features as EI200 Series, but comply with CEC Title 24.

The EI600 Series is an easy to program timer that provides up to 40 on/off operations that can be used for 24-hour or seven-day load control. A factory supplied CR2 lithium battery provides up to three years of time keeping without AC power and user program selections are stored in non-volatile memory. The timer has an isolated single-pole switch that allows the timer to switch

any load type, including PAR lamps and motor loads from 12 to 277 volts AC or 12 to 28 volts DC (within the specified ratings). A unique three-wire design allows the timer to be used as a single-pole or three-way (multi-way) switch.

The EJ500 Series seven-day timers provide up to six on and six off operations per day, which can be used for 24-hour or seven-day control of incandescent and fluores-



cent lighting. Two factory-supplied batteries provide up to three years of time keeping. An optional random feature deters burglars by giving your home a "lived-in" look.

These 24 new part numbers in the EI Series are currently available at Intermatic distributors nationwide. Visit your local Intermatic distributor to receive detailed specification information.

For further information on Intermatic's full range of energy controls visit www.intermatic.com or www.intouchcontrols.com.

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Heat-Treating System

A new heat-treating system from Can-Eng Furnaces uses Allen-Bradley ControlLogix programmable automation controllers (PACs) and Integrated Architecture Builder from Rockwell Automation to help its customer reduce programming and startup time, simplify training requirements and increase information sharing capabilities.

The Allen-Bradley ControlLogix PAC is responsible for control of the furnace, conveyor panel and aging oven and transfers information to and from the heat treating operation to a central server for information storage, archiving and retrieval. The controller also meets the customer's needs for a system capable of providing traceability and easy access to information.

Further information is available at www.rockwellautomation.ca.



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