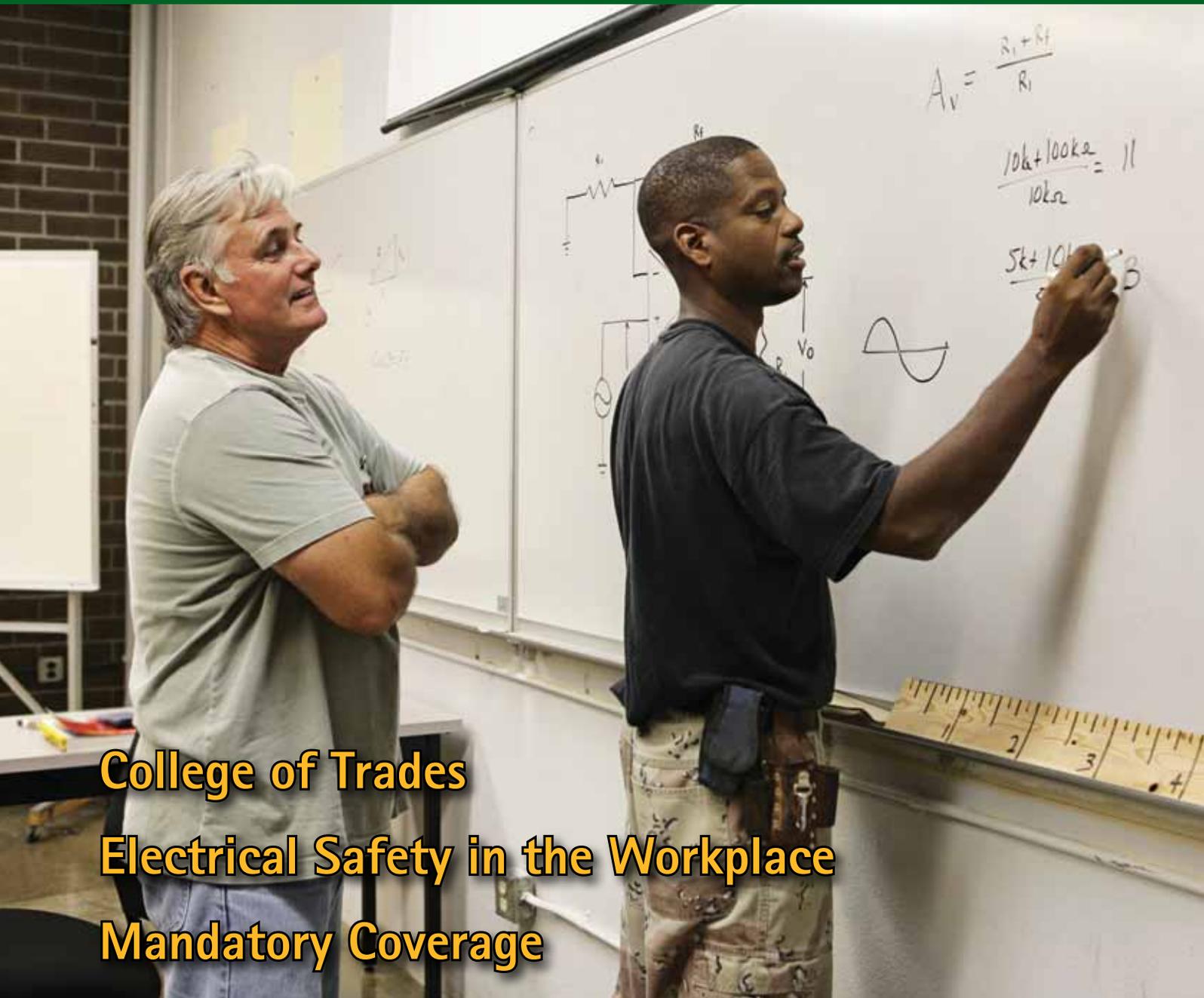


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Volume 47 • Number 2 • Spring 2009



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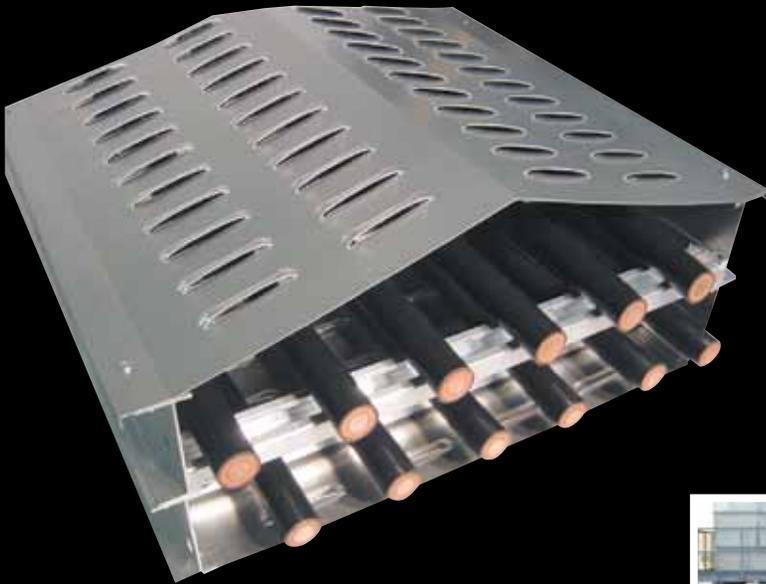
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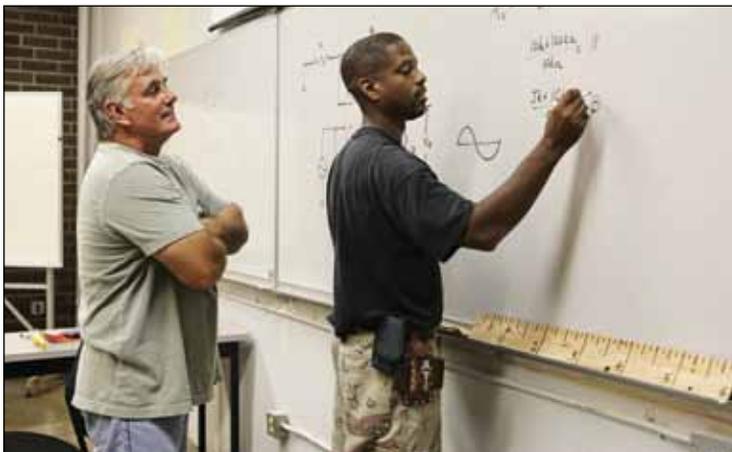


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Fred Black

The President's Remarks

Welcome to the Spring 2009 "Safety and Training" edition of *The Ontario Electrical Contractor*. The magazine themes are chosen more than a year in advance and as a result very rarely line up with the current event issues of the day. This is the exception.

The last quarter of 2008 and the first quarter of 2009 have been extremely busy for government regulators and stakeholder associations dealing with proposed changes in apprenticeship, workers' compensation, arc-flash and codes...all of which are covered in this issue. Other important issues such as reorganization of safety training agencies like CSAO and E&USA didn't make the deadline, but are well in hand with ECAO stakeholder input and will be reported upon elsewhere.

My own firm's planning process includes identification and prioritizing of risks to our business and strategies to manage them. Getting paid has always topped the list and I have concentrated on focusing my company's attention on this crucial issue. Recently though I have noticed that matters related to safety and workers compensation are taking more of my time and attention. Occupational health and safety regulations, fines and related workers compensation impacts are quickly rising to the top of my firm's business risk priority list. I believe it is an industry-wide trend.

The same focus is developing at ECAO. As President, most issues I dealt with in 2008 revolved around safety and WSIB matters. Our new ad hoc WSIB committee,

made up of contractors, safety and claims professionals and lawyers, is now permanent with sufficient resources to provide timely support to members on WSIB issues. Since the last issue of this magazine, the WSIB committee has made submissions on re-employment obligations imposed on contractors, occupational disease, mandatory WSIB coverage and the executive officer exemption regulation. In addition, their second edition of the ECAO Guide to WSIB will be available shortly and their strategy for a comprehensive WSIB claims management service will be reviewed by the ECAO Board and the Electrical Trade Bargaining Agency this spring.

Michael Zacks, who runs the WSIB Office of the Employer Adviser, has contributed an article on mandatory coverage. Be sure to read it and learn your obligations when acting as a contractor or subcontractor.

More directly on the matter of job site safety, John Salmon has contributed an article on CSA Z462-08 that takes us beyond arc-flash and to a more comprehensive view of "Electrical Safety in the Workplace." John, an ECAO contractor and ECAO director, has been delivering the contractor perspective on the new standard in CSA seminars across Canada.

The safety theme is rounded out with additional articles on the new Canadian electrical code, and the promotion of licensed electrical contractors in Ontario. And of course don't miss the regular feature, Toolbox Talks.

The second part of our theme is training. As a veteran of the Toronto Joint Apprenticeship Council, the Provincial Advisory Committee

and the ECAO Human Resources committee, I am very pleased that the government continues to promote the concept of a "College of Trades" and anticipate the introduction of legislation sometime this year.

I have written previously that the College, as envisioned originally by Tim Armstrong in his 2008 report, has the potential to provide an industry-driven apprenticeship system, tied to the labour market and capable of enforcing the compulsory status of our trade. Furthermore, the College would have a process in place to designate new compulsory trades such as powerline technician. These are all objectives that ECAO has pushed for over the years and enactment of the College will take us further toward our vision of a self-managed industry.

Scott Macivor has contributed an article outlining ECAO's submission to the Ontario government regarding the implementation and mandate of the College including its relationship to existing training bodies such as Joint Apprenticeship Councils.

Finally, regardless of the theme, we cannot ignore our business and personal finances, particularly in these very unsettled economic times. Stanley Tepner returns with the first of a two-part series on Tax Strategies Every Investor Should Know and Lynne Jacobs promotes the freedom derived from controlling your finances in her fourth class of the Trade Contractors' Business School.

I am sure you will find this issue of *The Ontario Electrical Contractor* topical and educational. If you have any comments regarding any matter in this issue, please feel free to contact me at ECAO.

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A Proposed College of Trades

Why Should We Care?

By Scott Macivor

ECAO President Fred Black believes: “A new College of Trades will afford our electrical contractors the opportunity to become more directly involved in apprenticeship training decisions helping to ensure the training will be based on actual employment needs rather than just ‘puppy-mills’ churning out numbers to meet government quotas.” He also said: “The College will be structured to respond to industry, by industry and for industry helping us to be more efficient, effective and at improved cost.”

Tradespersons will be held in higher regard for their acquired skills by not only their peers but also by a better informed consumer. Better skills training will mean better quality of work and safer work environments.

But just why has the Government of Ontario determined to consider giving up its long held hands on control over apprenticeship training in Ontario?

Tim Armstrong, former Deputy Minister of Labour and current head of T.E. Consultants, was commissioned by then-Minister of Training Colleges and Universities (MTCU), Chris Bentley, in April 2007 to do a six-month study and make recommendations on criteria for compulsory certification across the provincial apprenticeship system. The perspectives of the ECAO, through the joint Construction Compulsory Trades Committee (CCTC), were submitted to Armstrong in a detailed brief and we were pleased when most of its salient points were adopted in his final report. Mr. Armstrong had noted during consultations with affected industry representatives, that the current apprenticeship administration was fraught with much confusion regarding jurisdiction and responsibility for both training and health and safety.

When releasing his report, Mr. Armstrong further noted, “This inquiry has led me to the conviction that there is substantial potential to improve and enhance the standing and effectiveness of apprenticeable trades and their continued, strengthened contribution to the growth of the Ontario economy.”

It was time for the government to begin looking at turning over responsibility for an industry-serving system to the industry itself. Instead of continually pushing apprenticeship at industry it might be better to consult with industry stakeholders to establish an all-trades governance body.

A College of Trades could be established to contribute to the modernization of the apprenticeship and certification system to make it more responsive to economic needs, enhance the quality of apprenticeship training and expand the system.

The Ministry of Training, Colleges and Universities adopted the College of Trades concept and in September 2008, appointed Mr. Kevin Whitaker, Chair of the Ontario Labour Relations Board, to broadly consult with all affected stakeholders and report back with recommendations by April 2009.

The terms of reference for Mr. Whitaker’s consultations and report included direction to ensure there would be a balanced industry dominated Board of Directors and subcommittee structure operating at arm’s length from the government. The College is to be organized to represent each of the four distinct apprentice trades sectors of Construction, Industrial, Motive Power and Service. It is to be involved in the policy development and delivery of all aspects of apprenticeship including promotion, training standards, certification,

health and safety, regulation, apprentice/journey person ratios and enforcement.

The work of the College is to ensure it will raise the overall status of the trades and encourage more employers and individuals to participate in the apprenticeship system.

Mr. Whittaker is to also offer recommendations on establishing a fee framework to finance the work of the College and include an implementation timeline strategy.

ECAO welcomed the opportunity to provide its perspectives on its members' behalf having repeatedly stated and written to both Armstrong and Whitaker:

"No matter what recommendations come forward as a result of these reviews, it is absolutely essential that stakeholders be involved throughout the consultation process in the development of any structures, policy and/or potential legislation.

It remains imperative that the health and safety of the worker, employer, consumer, environment and the economy are given the utmost priority in establishing new frameworks, in consultation with stakeholders, to ensure the sustainability and prosperity of skilled trades in Ontario."

ECAO began developing its position with an internal assessment of the opportunities and benefits for its contractors from a proposed College of Trades. Could we have a more direct role in decision making including cost allocations, training content and delivery, health and safety issues, compulsory trade designations, etc.? Could we get better labour market information down to the local level so as to determine better numbers for ratios and what resources to put into training?

ECAO advocated for a college structure to be determined by functions. But, while separate from government, maintain most of the successful elements of the current apprenticeship system. Both ECAO and business partner IBEW felt the industry should be designated to handle contract and regulations enforcement and were prepared to suggest the Electrical Safety Authority model as a working example.

ECAO has always emphasized apprenticeship must be continually tied to a contractual employment relationship based on training completions. Apprenticeship offers an "earn while you learn" opportunity and ought not to be associated with simple enrolment programs where classrooms get filled in the hope that jobs will appear when the in-school portions are completed. The underground economy is often where those without jobs turn to find work.

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During the background research, ECAO was led to conduct an examination of the British Columbia model called the Construction Industry Training Organization (CITO) under an umbrella organization called the Industry Training Authority (ITA). Details of this initiative are available at www.itabc.ca/site3.aspx. This comprehensive industry driven model is now being implemented in B.C. and proved very helpful to developing an ECAO proposed working model for Ontario. The Ontario Deputy Minister of MTCU is originally from B.C., and, while leaving soon, likely influenced the concept thinking behind the Ontario government's perspective.

While the timeframe for consultations and developing responses was extremely tight, the ECAO met with and/or exchanged draft documents with over a dozen different representative groups from our sector.

John Pender, IBEW Executive Secretary-Treasurer said in its submission: "There is a pressing and compelling need for real enforcement of the certification and ratio requirements of the TQAA but we also seek to ensure that the various changes that will accompany the creation of a College do no harm to the electrical industry or to our members."

Pat Dillon, head of the Provincial Building Trades noted: "The potential for improvements to skills training recognition by a College of Trades will help increase the positive profile for tradespersons throughout our industry. Young people, their parents and teachers will better respect and appreciate the complexities and rewards of learning a skilled trade."

While no critical points of major variance were discovered during draft exchanges, several persons expressed concern regarding

the apparent lack of enthusiasm for a College of Trades beyond those groups seeking compulsory certification.

In its report to Whitaker, the ECAO supported virtually all the functions proposed in his terms of reference and primarily focused on how these functions could be delivered. ECAO envisions a College that will act as a voice for the industry and the public, perform duties of advocacy, oversight of program design and delivery, enforce measures of accountability, 'adjudicate' trade issues and provide representation to government on a number of industry-related issues.

The College as proposed will operate under contract at arm's length with legislated authority. The proposed governance structure, outlined on the accompanying chart, includes a 24-seat industry based Board of Governors. The Board members

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include three seats assigned to each of the four “faculties” of Construction, Industrial, Motive Power and Service, with the other seats being filled by public appointments, government representation and other industry representatives who may not be directly associated with the faculties but have appropriate industry stature and experience such as company CEOs or Trade Union leaders.

The four sector Faculties will report directly to the College Governors and are structured to have voting control from six trade practitioners and six contractors in each faculty along with two non-voting ex-officio advisors from the Training Delivery Agents (TDAs).

Reporting to the Faculty Board it is then recommended Trade Specific Committees (TSCs), similar in makeup to the current Provincial Advisory Committees, should be established to ensure both trade specific operational and policy issues are appropriately addressed by sector industry experts and that the ongoing work of Local Apprenticeship Committees (LACs) and

the Training Delivery Agents are effectively monitored and assessed.

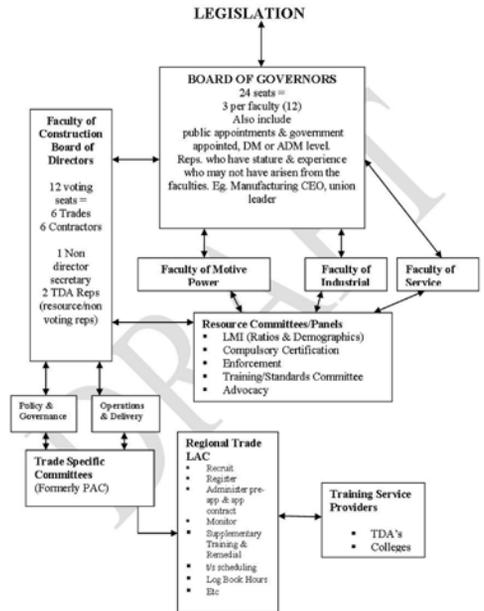
At the centre of this structure is a Resource Committee, or panel of industry/trade experts, established to provide competent persons available to all faculties to consider and make recommendations to each Faculty on issues such as labour market information, ratios, compulsory certification criteria/requests, enforcement, training/standards and advocacy.

For example, before a request for compulsory certification is made by a specific trade, the appropriate faculty would first draw on sector-related members from the Resource Committee to establish appropriate general certification criteria. After acceptance of the criteria, they would be applied to all requests received by the Faculty. The Faculty in turn makes recommendation to the Board of Governors for possible college approval and an ultimate recommendation to the Minister for regulatory enactment.

While open to further studies and consideration, ECAO recommended the

funding for the college could be drawn from a combination of journeyperson licensing fees, the transfer of government funding formerly provided to the related bureaucracy, enforcement fines and the contributions already being provided by the existing industry stakeholders.

INTERPRETATION OF GOVERNANCE STRUCTURE



It is proposed that the Board and Faculty components retain a government connection operating as Legislated Administrative Authorities (LAA) while the operational elements below the faculty Board level operate more independently as not-for-profits (NFP).

ECAO President Fred Black, along with Executive Vice-President Eryl Roberts and staff, met separately with Mr. Whitaker and his assistant Mr. Mike Uhlmann at the conclusion of the consultative process to further discuss the ECAO proposal and offer support for assisting with implementation.

The ECAO proposed that since the construction sector was currently the most active and arguably the best organized that the Faculty of Construction under the College of Trades be the first to be established

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and used as the template for the other three industry sectors.

The ECAO also suggested Mr. Whitaker consider holding an immediate symposium style meeting with all construction stakeholders to discuss and attempt consensus on an operational/governance model for the Faculty of Construction. Unfortunately, however, time did not allow for such a session to be organized before he was required to report to the Minister.

Mr. Whittaker generously commented during the meeting: "I found the submission from the ECAO to be one of the most comprehensive and helpful of all the information we received and considered."

What Happens Now?

At the time this article was written in early February, Mr. Whittaker had concluded his

consultations and was preparing to submit his first draft report to the MTCU Minister. Senior bureaucrats have confirmed enabling legislation was still being considered for introduction in mid-March and that support for having a College of Trades still reached as high as the Premier's office. This continues to be good news for the construction sector and, while a decision is yet to be made regarding the possibility of construction being the faculty template umbrella, it is this sector that is seen to be staying the most active during the current economic slowdown and therefore having the greatest need.

Now is the opportunity for our entire construction sector to step up and make sure the government is aware of its intention to embrace the College of Trades as proposed and is prepared to work together to make it work. Two back-to-back extensive reviews and positive industry momentum are in place

at present. A wait-and-see attitude, however logical, could become opportunity lost as the government comes under increased pressures to look for any expenditure cutbacks it can find. Can this construction sector afford to have the apprenticeship system remain, as it has for the last generation, under the control of a bureaucracy not committed to the same outcomes as the industry the system is supposed to support?

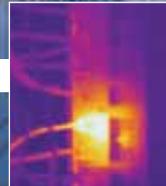
Scott Macivor currently consults as a Project Facilitator. Scott recently retired from the Ontario Construction Secretariat where he spent over 10 years balancing the efforts of 25 different construction trade unions and their management counterparts in the Industrial, Commercial and Institutional (ICI) sector across Ontario. He may be contacted at smacivor@sympatico.ca.

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Electrical Safety in the Workplace

By John Salmon

Every year, far too many electrical workers are permanently disabled, severely injured and electrocuted. Many of these incidents could be prevented by the implementation of policies, procedures, safe work practices and other electrical safety principles contained in the Canadian Standards Association (CSA) standard Z462-08 *Electrical Safety in the Workplace*. The release of the new CSA Z462-08 standard is a step in the right direction, providing a “How-to-Do-It” guideline for stakeholders to meet the requirements for due diligence and for enforcement officers applying regulations.

The *Ontario Occupational Health and Safety Act* clearly states under the General Duty Clause that an employer has an obligation to “*Take every precaution reasonable in the circumstances for the protection of a worker*” and therefore, to control hazards in the workplace.

The employer is required to develop and implement an Electrical Safety Program that addresses employee exposure to each specific electrical hazard that exists in their workplaces, and the workers are responsible for following all the requirements of the Electrical Safety Program.

Establishing an effective Electrical Safety Program is the foundation for prevention of injuries associated with electrical hazards. Policies, safe work procedures, safe work permits, hazard analysis, risk assessments, risk reduction, training, Personal Protective Equipment (PPE) and other specific written program documents, will protect workers and help to prevent property damage.

In Ontario, regulations for working with electricity have been in place since the 1990s, however, we did not have a Canadian Standard to provide us with “how to” best practices and performance guidelines. In the U.S., the National Fire Protection Association had developed a standard entitled NFPA 70E *Electrical Safety in the Workplace*; unfortunately many Ontario organizations were unaware of its existence. CSA used the NFPA 70E standard as a seed document for harmonization and development of the CSA Z462 standard.

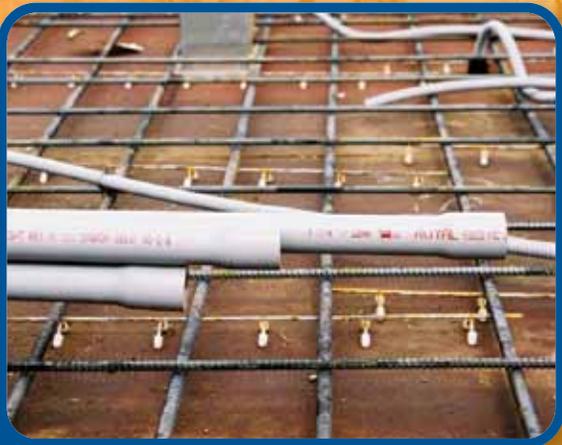
With the increase in electrical incidents, injuries and fatalities, regulators realized that to safely work with electricity, a more comprehensive and focused approach was required.



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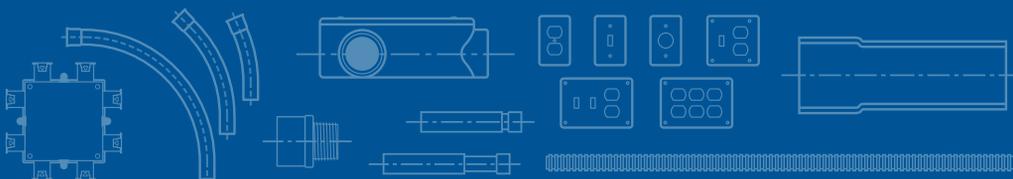
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HEALTH AND SAFETY

The CSA Z462-08 Standard *“Electrical Safety in the Workplace”* provides the tools for stakeholders to evaluate their existing electrical safety program for compliance with provincial regulations and best practices.

Many stakeholders are aware that they need to react to improve their electrical safety performance, but are struggling with the correct approach to ensure their workforce is adequately trained and properly protected. As with any new CSA standard the message needs to be communicated effectively.

In the fall of 2008, CSA seminar planners assembled a knowledgeable team of experts to participate in roll-out conferences across Canada. We communicated the requirements of the CSA Z462 standard to the audience. I participated as one of several guest speakers to deliver, from a contractor’s perspective, a practical message entitled “Proactive vs.

Reactive Approach to Electrical Safety.” The interest was excellent and the training was well received from various attendees. This CSA program will run again in Toronto in May.

New Requirements

In Ontario, the Ministry of Labour (MOL) and the Electrical Safety Authority (ESA) are proactively working with stakeholders to introduce them to the new requirements to be incorporated into their Electrical Safety Program.

Recently, the MOL completed a safety blitz message in various workplaces. *“The Ontario Government and our workplace partners are working together to eliminate all workplace injuries,”* said Labour Minister Peter Fonseca. *“Part of our strategy for achieving this goal is to conduct stepped-up enforcement to prevent electrical hazards at workplaces.”*

Arc flash itself is not the main cause of electrical injury; however, arc flash causes catastrophic injuries and is feared by workers. Live contact shock is the leading cause of electrical injury, often due to lack of respect for the danger of electricity and not wearing rubber and leather gloves or using the correct tools. Many electrical workers have a lack of respect for voltage, particularly 120 volts. Some workers think getting a shock is part of the job. We like to use the following analogy when providing electrical safety training — *an arc flash is like a plane crash and live contact is like an automobile accident.*

The new CSA standard Z462-08 is Electrical Safety in the Workplace and is not just about arc flash, personal protective clothing, equipment, and tools. The main technical thrust of the CSA Z462 standard provides methodology on: safe limits of approach; protection from live contact resulting in electrical shocks or fatal electrocutions; and, arc flash and arc blast which can result in burns and impact injuries.

Work Methods

Electrical workers perform two distinct live work methods, working directly on energized electrical equipment and conductors, and live testing and troubleshooting.

These two tasks require a different approach with respect to hazard analysis, risk assessment and authorized work permits. Working directly on energized fixed electrical equipment and movable conductors requires a safe live work permit signed by the officers of the corporation such as the CEO or similar person of authority. There must be a compelling reason to not have a planned outage, and the risk of de-energizing must be greater than the risk of planned outage. If the installation (i.e. fixed equipment or conductors) is operating at a nominal voltage of 300 volts or more, a suitably equipped competent person who is able to recognize the hazards and perform rescue operations, including artificial respiration, shall be available and able to



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see the worker who is performing the live work. This competent person is, however, not required to be present for live testing and troubleshooting.

Leather gloves and voltage-rated rubber gloves are required at all times when working on voltages of 50 volts and above. We recommend that the voltage at which gloves are required be 30 volts and above to align with the *Canadian Electrical Code*. A great starting point for stakeholders is to purchase leather gloves and voltage-rated rubber gloves for all their workers who perform any live work and live troubleshooting. Also recommended purchases are fused leads for some test meters which reduce the possibility of arc flash caused by meter failure, and extended leads to keep electrical workers hands further from live surfaces.

Meter safety is an important aspect of electrical safety. Prior to training, we ask the participants to bring their test meters with them to determine safety category and compliance to the IEC-1010-1 standard. We call it the “meter amnesty program.” We impound non-category rated meters, which always invokes an interesting discussion and is quite an effective approach to determine the suitability of these instruments for the tasks to be carried out.

The IEC-1010-1 standard specifies categories of overvoltage based on the distance from the power source and the natural dampening of transient energy that occurs in an electrical distribution system. Higher safety category meters are required when working closer to the power source as they offer more protection.

The digital meter impulse rating for transient high voltage spikes and “creepage” distance (along surfaces) and “clearance” distance on category III and

IV meters helps to reduce the potential for meter failure which can lead to a two-stage arc flash.

We recommend digital meters be rated minimum category III (1000 volt) for the distribution level, and category IV (600 volt) for the supply level, main services and outdoors. Many of the new digital meters have a dual rating meeting these criteria.

An arc flash is caused by a short circuit and is a voltage breakdown of the resistance through air. When insulation or isolation between electrified conductors is breached or can no longer withstand the applied voltage, an arc flash and arc blast occurs. Arc flashes produce temperatures in the order of 35,000 C and emit arc blast pressures equivalent to a large jetliner at full throttle. Other factors, such as impact injuries caused by falling, and shrapnel projected toward a worker, can cause collateral injuries. Some other collateral hazards are copper vapours and other hot gases that can lead to immediate serious lung injuries and/or other long-term health issues (i.e., vision and hearing loss). The effects are tantamount to a grenade being detonated in your face. These overall hazardous effects of arc incidents are often referred to as “toxic energy.”

Approach distances

Protection from contact with energized fixed electrical equipment and moveable conductors is achieved by following limits of approach boundaries and spaces (which are incremental safety distances) as follows:

- Limited Approach;
- Restricted Approach; and
- Prohibited Approach

These approach distances are based on voltage present and are not distances associated with arc flash and arc blast distances. The arc flash and arc blast distances are variable based on the available

fault currents, and the explosive forces called incident energy. Complicated logarithmic calculations are required in order to determine the incident energy. Typically, these complex calculations are completed using specialized software by experienced competent persons.

The arc flash distances are based on the potential thermal incident energy which is measured in calories per centimetre squared (cal/cm²). Warning and communication labels indicating the information above are produced by the software or manually on a printer and placed on panels, switchboards MCCs, disconnects, etc. These labels form the basis for communicating the safety requirements and PPE ratings for the affected electrical workers.

The “qualified” electrical workers must understand, obey and enforce the requirements of these labels implicitly.

An electrical worker must be trained to be a “qualified person.” To be considered qualified, the training must go well beyond simple awareness training in order to work directly on energized electrical equipment and conductors and perform live troubleshooting safely.

A qualified worker must be trained and knowledgeable of the construction and operation of equipment or a specific task. He or she must also be trained to recognize and avoid the electrical hazards that may be present with respect to that equipment or task. This is an important role that requires skill, knowledge and leadership. The qualified worker is responsible for controlling the actions of non-qualified workers. This is a very serious responsibility and the electrical worker must fully understand his/her role and make a commitment to ensuring non-qualified workers work safely. When we complete the training, we ask the students

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HEALTH AND SAFETY

to complete a 100 question examination in order to reinforce the learning objectives. Most participants feel a real sense of accomplishment when they pass this examination. Completion certificates are provided to the successful trainees.

Qualified persons shall also be familiar with the following:

- Special precautionary techniques based on the tasks being undertaken;
- Personal protective equipment (PPE);
- Personal protective clothing (PPC);
- Insulating and shielding materials;
- Grounding equipment;
- Insulated mats;
- Insulated tools and test equipment;
- The skills and techniques necessary to distinguish exposed energized parts from other parts of electric equipment;
- The skills and techniques necessary to determine the nominal voltage of exposed energized parts;
- Safe approach distances and the corresponding voltages to which the qualified person will be exposed;
- The decision-making process necessary to determine the degree and extent of the hazard, the job planning required to avoid the hazard, and the PPE necessary to perform the task safely;
- Understanding the duties of a supervisor;
- Understanding the relationship and applying Lockout/Tagout /Test Before Touch Procedures;

- Ensuring all Permits are completed and the instructions are followed; and
- Enforcing the company policy, safe work procedures, and discipline.

A person may be considered qualified with respect to certain equipment and methods but still be considered unqualified for other equipment and methods.

The hand PPE consists of leather gloves and voltage-rated rubber gloves. The gloves are rated in incremental voltages starting at:

- Class 00 = Up to 500 Volt AC;
- Class 0 = Up to 1,000 Volt AC (This is the most common rating for non high-voltage workers);
- Class 1 = Up to 7,000 Volt AC;
- Class 2 = Up to 17,000 Volt AC; and
- Class 3 = Up to 27,000 Volt AC.

Body-protective clothing must be 100 per cent natural fibre, such as cotton. The safety clothing is Fire Resistant (FR) rated. It is also rated by the Arc Thermal Performance Value (ATPV) in calories per centimetre squared (cal/cm²). This rating must be marked on the clothing by the manufacturer. Special washing techniques are required for the clothing, for example, no bleach or fabric softener can be used. Clothing must be properly maintained and cannot be used as PPE if soiled or dirty. Some clothing is chemically treated; other clothing is manufactured from a FR-rated fabric.

The clothing is rated as follows:

- Category 0 = ATPV is NA, no cal/cm² rating, just all-natural fibre;
- Category 1 = ATPV 5 to 7 cal /cm²;
- Category 2 = ATPV 8 to 24 cal /cm²;
- Category 3 = ATPV 25 to 39 cal /cm²;
- Category 4 = ATPV 40 cal/cm²;
- Above Category 4 “no category found” danger category (can never work live).

Lockout, Tagout and Test Before Touch verification techniques are required. This may be a new concept for many electrical workers. To test for power, workers will need to open panels and wear the appropriate PPE and PPC in order to meet the requirements of the new Electrical Safety Program. Other past practices, such as bare hand work on de-energized live surfaces, are not recommended (it is possible for a back-feed to occur causing a voltage rise before the overcurrent device can trip, and without protective PPE, the worker could be injured).

The road to achieving an effective Electrical Safety Program may seem long, but by getting started and taking one step at a time, your organization will be there before you know it!

John Salmon is the sole owner and President of A.R. Milne Electric Ltd., a Waterloo-based electrical contractor specializing in complete Electrical Safety/Arc Flash Solutions, Integrated Design Safety Solutions, Control Systems, Installations, and CSA Approved Control Panels. He may be contacted at armilne@armilne.com.



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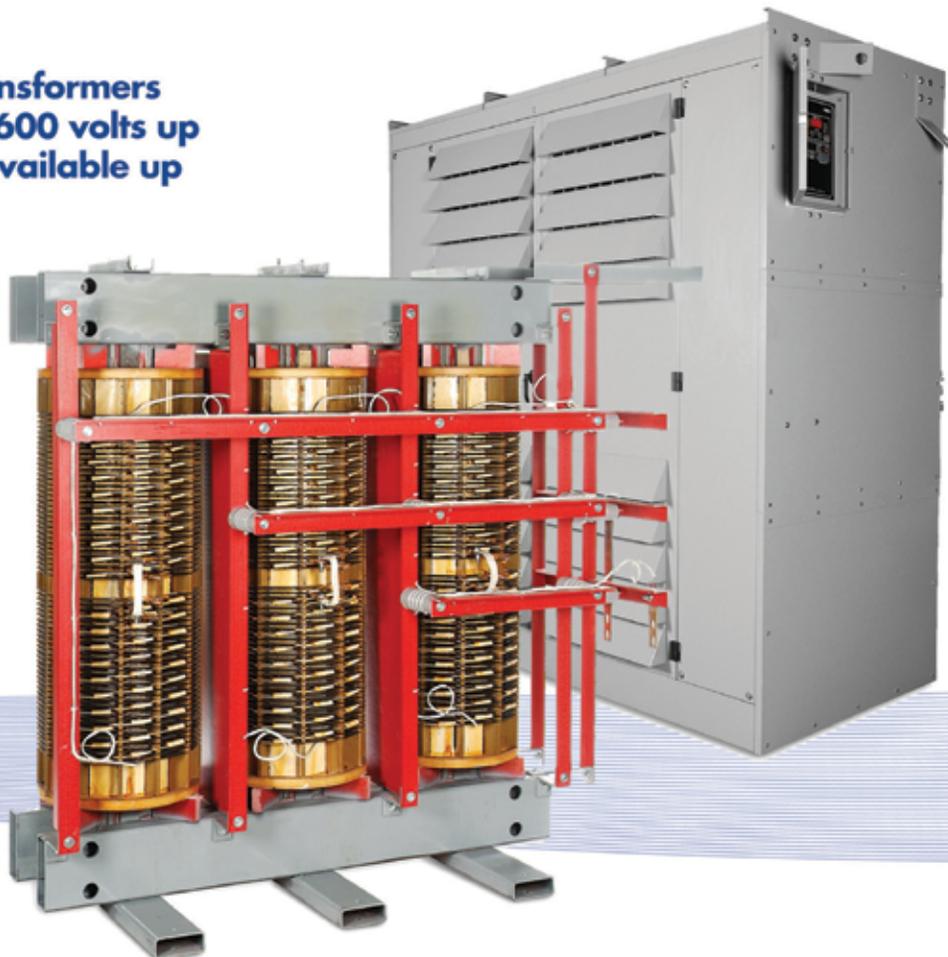
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Mandatory Coverage in the Construction Industry

By Michael Zacks

Bill 119, amending the *Workplace Safety and Insurance Act, 1997* (*WSIA*), received Royal Assent on November 27, 2008. It will come fully into force over the next three years. The Bill only affects the construction sector, and will significantly change how existing relationships between contractors and independent operators (IOs) function. The Bill also authorizes the WSIB to develop policies to establish a named insured system to allow the WSIB to identify all construction workers.

In essence, the Bill removes several *WSIA* coverage exemptions. Currently, IOs or individuals who operate their own businesses and do not have employees are exempt from mandatory coverage. The Bill, subject to a narrow home renovation exclusion, changes that.

Executive officers such as the president, vice-president, or general manager of an incorporated company currently have their wages excluded from WSIB premium calculations. The Bill removes the

executive officer exemption, deeming them to be workers whose wages are subject to WSIB premiums. However, the Bill authorizes the government to make a regulation that allows executive officers who do not actually go onto a construction worksite to maintain their exemption. The purpose of the Bill is to make all persons who work on a construction site subject to *WSIA* regulation, and to authorize the WSIB through a named insured program to know who is on a site.

Who is an Independent Operator?

The major impact of the Bill on the construction industry is the mandatory coverage of IOs. The Bill defines an IO for the purposes of construction as an individual who does not employ workers, reports as self-employed under any federal or provincial act or regulation such as the Income Tax Act, and is retained as a contractor or subcontractor by more than one person during a period to be set out in WSIB policy. This is a much simpler set of criteria than what currently exists in WSIB policy, and will certainly make it easier for the WSIB and the

industry to determine who is an IO. It remains to be seen whether the WSIB will still require IOs to complete an IO questionnaire, or allow IOs to self-declare their status, subject to later audit verification.

An incorporated IO is an executive officer of his or her company who is still obligated to register with the WSIB. The Bill deems that an executive officer of a company with no other workers is an IO. In other words, it does not matter for the purposes of the Bill whether the IO is a sole proprietor or a corporation. The obligations are the same.

If the IO has a workplace injury or disease, an IO is a worker for WSIB benefit purposes and an employer for premium payment purposes. Conceivably, an IO who is injured will have to file both a Form 7 as an employer and a Form 6 as a worker. Perhaps the WSIB will create a consolidated reporting/claim form for IOs.

An IO who is injured on the job is entitled to receive WSIB benefits, regardless of whether their employer has registered with the WSIB, because our workers' compensation system provides benefits to all covered workers. The WSIB may, however, set off any outstanding premiums owed by the IO as the employer, against the benefits to which the IO would be entitled to receive as the worker.

Home Renovation Exemption

IOs who perform only home renovation work retain their exempt status from mandatory coverage. Home renovation is carefully defined to ensure that the exemption is not used to avoid registration obligations. Exempt home renovation work is work performed on an existing private residence that is occupied or to be occupied by either the person who directly hires the IO, or the person's family. Work performed on a non-residential job will nullify the home renovation exemption. WSIB policy will likely provide additional guidance on this. For example, would home renovation work on a mixed-use property such as a family farm, or a private residence with a business office in the basement, or a one-time job for a landlord of an office building nullify the exemption?

Executive Officer Exemption

The Bill authorizes the government to make a regulation allowing executive officers who do not perform construction work to maintain their exemption from worker status. The Bill allows the regulation to set out various factors that will more specifically define the exempt executive officer class. It may include such factors as the minimum number of executive officers of corporations eligible for the exemption, the nature of the work performed by an executive officer, and the number of executive officers of a corporation that may be exempt.



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The Clearance Certificate Regime

Changes to the clearance certificate system will be the mechanism used by the WSIB to enforce the new construction coverage regime. Currently, a principal who retains a sub-contractor has the option of obtaining a clearance certificate from the sub as proof that the sub is in good financial standing with the WSIB. Without the clearance certificate, the principal is at risk of having to pay premiums on the labour component of the sub's contract if the sub owes money to the WSIB.

The Bill imposes new clearance certificate obligations. The most fundamental change is that it will be an offence under the WSIA to engage any contractor, sub or IO without first obtaining a clearance certificate. In other words, if there is no clearance certificate you cannot hire the sub or IO. In fact, the Bill requires that construction work must stop when the clearance certificate expires.

The principal must also pay the premiums of the sub's workers. The principal will, however, be able to set off the premiums paid against any money owing to the sub. Clearance certificates must be kept for three years, and are not required for exempt home renovation work.

Named Insured

The last significant change introduced by the Bill authorizes the WSIB to develop a named insured system. This will enable the WSIB to know what workers are on a construction site at any time, and how much they are paid. The system may include the issuance of worker identification cards or identification numbers, and worker earning information. The intention is to prevent under-reporting of earnings by employers.

Bill 119 is scheduled to come fully into force in 2012. In the interim, the WSIB will be developing policies to facilitate the registration of thousands of IOs and a new named insured system.

Michael Zacks is Acting Director and General Counsel for the Office of the Employer Adviser. He can be contacted directly at (416) 314-8735 or at michael.zacks@ontario.ca. The above information is of a general nature, and any specific questions about the application of Bill 119 to individual circumstances should be discussed with one's legal advisor or with the Office of the Employer Adviser.

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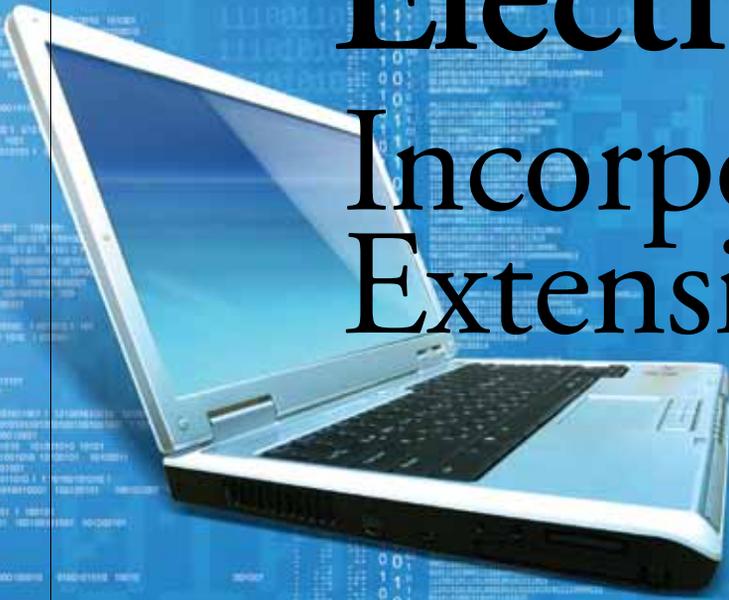
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Newest Version of Canadian Electrical Code Incorporates Extensive Revisions



Each year in Canada, 600 to 800 people experience workplace electrical accidents.* A key component to electrical safety is awareness and consistent application of best practices for standards, regulations and safe work environments. Since 1927, CSA's *Canadian Electrical (CE) Code* has provided the signature standards for addressing shock and fire hazards of electrical products in Canada.

The release of the 21st edition of the *Canadian Electrical Code (CEC) Part I* signals the movement of code publication from a

four-year to a three-year cycle. This schedule will benefit all stakeholders by providing faster implementation of new safety requirements and quicker recognition of new technologies as they come online. It will also facilitate closer correlation between *the CEC* and *National Electrical Code (NEC)*, which is also published every three years.

The new edition of the *CE Code* contains some of the most significant changes ever, incorporating 108 revisions and 14 new interpretations. The provinces and territories, as well as the federal government, refer to

the electrical code in their building codes, so changes will have a wide impact. The 10 main areas where CE Code upgrades occur are:

- Requirements for tamper resistant receptacles in residences;
- Passenger ropeway requirements;
- New bonding requirements for servicing swimming pools;
- New requirements for primary seals;
- Equipment requirements for certain class and zone hazardous locations;
- New cable types;
- Motor overload protection requirements;

- Kitchen microwave and range hood hookups;
- Connection of non-mandatory equipment to emergency power supplies; and
- Electrically connected carbon monoxide alarms.

In addition to the Code itself, CSA offers a range of code-related products and training resources designed to assist with code understanding and implementation. This includes an industry-first *Mobile Publications* format, allowing users to download the CE Code to most popular mobile devices, including iPhone and BlackBerry. The code will also be available in Handbook and “Smart Standard” CD-ROM formats. CSA Education and Training offers public courses in CE Code Essentials, e-learning tools such as ESAT (Electricians’ Self-Assessment Tool) and will be promoting a two-day conference on Workplace Electrical Safety in early May, in conjunction with the Electrical Safety Authority (ESA).

Published by the *Canadian Standards Association*, the *Canadian Electrical Code, Part I* seeks to establish safety standards for the installation and maintenance of electrical equipment. In addition to the *CE Code*, CSA publishes over 3,000 standards and standards-related products in a wide range of subject areas, as well as a full suite of services and solutions that aid in the understanding, interpretation and application of standards.

* Source: The Association of Workers’ Compensation Boards of Canada

Canadian Electrical Code Part IV

More than 80 years ago, CSA created the first standard for installation practices of electricity. The *Canadian Electrical Code* has continued to evolve to reflect new technology as well as the changing needs of Canadians.

In today’s global economy, Canadians need to be even more competitive. Other codes and standards, such as the *Canadian Building Code*, are moving towards developing technology-independent, objective, risk or hazards-based codes and standards intended to stimulate innovation and shorten the adoption cycle for new technology, while still maintaining existing levels of safety. The development of the *Canadian Electrical Code Part IV* is an essential evolutionary step in electrical safety that will provide Canadian industry the necessary flexibility to be competitive in the global market.

CE Code Part IV is comprised of two key integrated components:

- C22.4 No. 1 – Objectives Based Industrial Electrical Code (OBIEC)
- C22.4 No. 2 – Safety Management System – Requirements

Flexibility

The OBIEC and SMS standards will provide industrial users (e.g., an oil refinery or steel plant), who possess appropriate design and operation qualifications, with the necessary flexibility in engineering design, product selection, installation methodology and day-to-day operations and maintenance, to remain competitive in today’s global marketplace, while maintaining or even enhancing the existing levels of electrical safety. In addition, synergies between the OBIEC and other

major global electrical standards will create a foundation for enhancement of trade and adoption of new technology

Integration with CE Code Parts I and II

The *Canadian Electrical Code Parts I and II* establish the minimum acceptable levels of safety for electrical installations and products in Canada. *CE Code Part IV* will provide an authorized user with:

- Flexibility to develop and use an alternative to the prescriptive requirements of *CE Code Part I* if they can demonstrate and document that their proposed design provides a level of safety equivalent to that provided by existing *CE Code Part I* requirements;
- Selection processes for electrical equipment, with existing levels of safety as defined in the relevant Part II standard being the minimum acceptable levels of safety in the OBIEC;
- Enhanced safety through implementation of auditable safety management processes, including improved design and inspection requirements.

Balanced Matrix Development

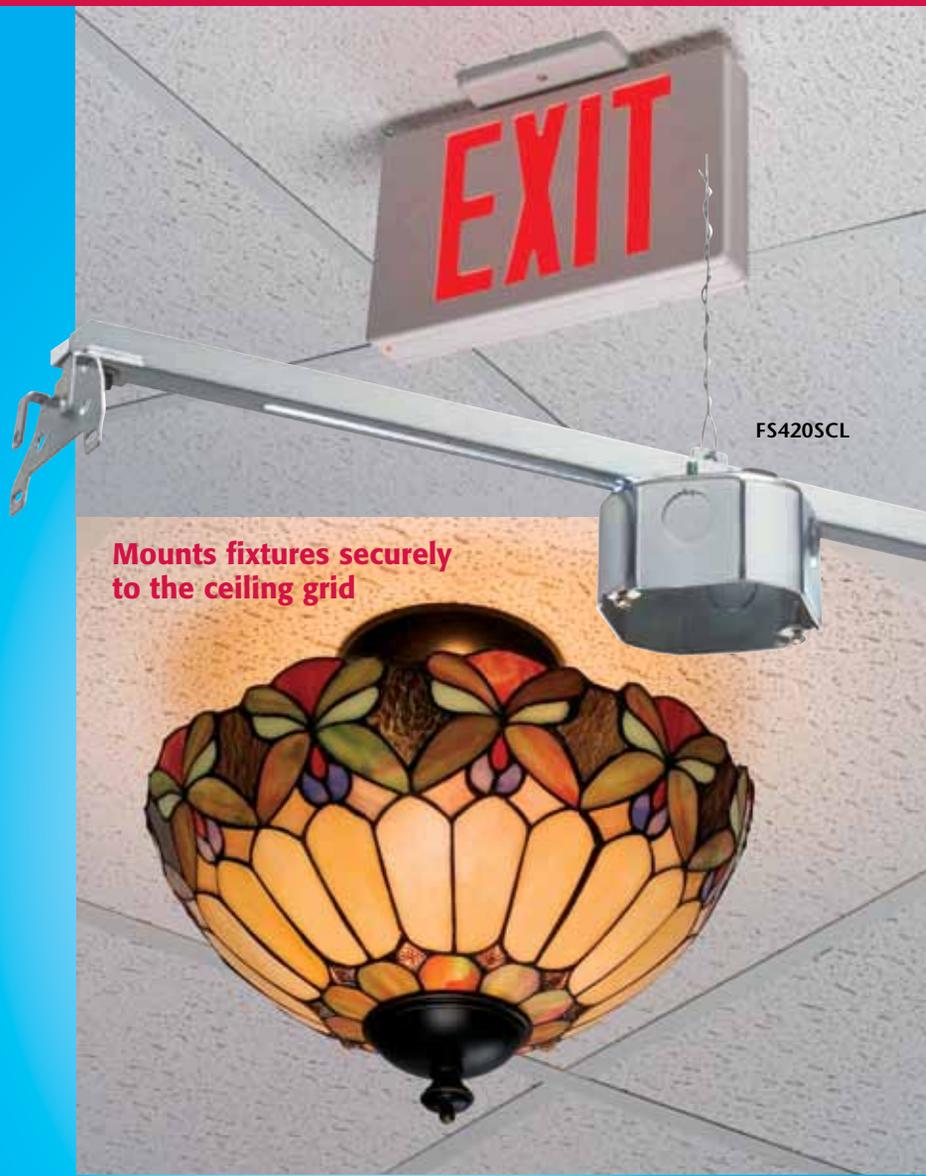
As with any CSA Standard, *CE Code Part IV* was developed by a balanced matrix technical committee using a consensus process to ensure that stakeholders (industry, labour, government) from all provinces in Canada are given an opportunity to be represented.

To find out more about *CE Code Part IV*, visit: cecode.csa.ca

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 - Usable for Environmental Air Handling spaces



Option: If required by local code, bracket ends screw on to ceiling grid.



One-piece assembly - Ready to install. Assembly is tested and Listed to support fixtures up to 25 lbs.



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TAKE BACK YOUR POWER

By Controlling Your Finance\$



By M. Lynne Jacob

It's a known fact that company owners need to use a tool called "debt" in order to grow their businesses. It's also a known fact that the weight of debt causes hardship in businesses and in families. It's extremely important, therefore, to be sure that we use this tool to our advantage.

In **Strategy #4** in *The Trade-Contractors' Business School* is **Take back your Power by Controlling your Finance\$**.

I don't teach you how to read your monthly bookkeeping reports (see Strategy #2) nor your profit and loss statements, though I do stress the importance of doing so regularly.

We look at things like:

Pricing and how you can be sure you're ending up with the top dollar for the work you

do. Are you one of those people who wants to tell me that jobs are only awarded to the lowest bidder? Please do so. Feel free to give me a call. If you'd like to be one of the contractors, however, who gets contracts where you set the pricing, knowing you're being well compensated for the good work you do, when you call me I'll ask you to do some research. Call 10 of your fellow association members and ask them if they have ever bid high on a project and been awarded the contract. Then ask those who have how that happened. I'm sure you'll learn that it's thanks to the relationship they've built with the customer, the quality of service they provide, the quality of work their teams do and the quality of their teams. Now, if you still believe that there's nothing that can be done for you to ensure you're ending up with the top dollar for the work you do you have other options.

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Debts: We look at good debts vs. stupid debts. Clients in *The T-C BS* identify their own smart debts and their stupid debts and focus on eliminating the stupid debts.

We also focus on **Budgets & Reserves**, without these, neither you nor your business will survive. Did you know that it's essential for you to have a financial reserve sufficient to cover three months of your operating costs? It's so much easier to accomplish this than you can imagine, if you don't currently have a three-month reserve and never have had one.

When was the last time you reviewed your **family budget** and your business budget? Working with one contractor and his wife they told me they didn't know what their family spending was because, quite frankly, they were afraid to know. Another contractor and his wife invested the time to keep every single receipt for one month, and then, with knowledge, made an appointment with the financial planner (whose calls they hadn't returned in years). They were excited after their second appointment with their financial planner because they saw when they'd be rid of their stupid debts and they started planning their vacations.

I recently asked a roomful of trade contractors for a show of hands of those who

had a family budget. Not a hand was seen and everyone looked around the room, in silence. One woman dared to speak up and said, "We don't like to be limited in what we can spend."

That's the funny thing about a budget, I explained. It seems like a bad word to many, a limitation. I, on the other hand, (like many of my clients, now) have a family budget so we can see how much we need to earn during the year to have sufficient funds to set aside for home improvement projects and vacations.

Yes, that's right. Vacations, in the plural form. Most of my clients haven't taken many vacations (many have taken none in the last three to six years and some have never taken any!) because they're too busy. When we get right down to it, though, they see it as frivolous spending because they don't have a "budget" for vacations.

That's just one reason why we want to develop the habit of creating a family budget. The other is so we know how much money we need to earn so we can adjust our business budget accordingly and then we pay ourselves first, not from what's left over or what's not yet maxed on our lines of credit.

With a budget for your business — projections for the year ahead — it's easy to see

where you're at in relation to meeting your targets: for sales and for expenses. Course corrections are easy to make along the way to ensure you can pay yourself at the first of every month in accordance with the family budget.

It's essential to eliminate stupid debts; and while doing so I encourage you to increase your savings, as well. To start with, this is an ideal time to start accumulating the three months reserve. After that, saving for retirement is good investment, whether it be through financial investments or real estate. Speaking with an expert in this field would be a very worthwhile investment of your time.

The most important reason for controlling your finances, however, is because it gives you the power, the courage, to say **no** to jobs that you just don't want to do. Ask yourself, "Have I ever taken on a job I just knew I didn't want to do?" Being in control of your finances will give you the power to turn those jobs down with no fear of from where the next job is coming.

Another powerful reason for being in control of your finances is that it makes it much easier to make decisions. Let's say you have the purchase of another vehicle in this year's projected figures and now you learn you need to replace two of them. Reviewing your figures, you make adjustments by putting some other hefty expenditure off for a bit, or a few smaller ones, or you increase sales, by offering a new product or service, or simply focusing more on helping your customers make better investment decisions in your company (you may be surprised how easy this is to do).

Whatever the "course correction," it's much, much easier to make the decisions when you have your course mapped out in front of you and you possess your "power," thanks to being in control of your finances.

Another topic on which we focus in Strategy #4 is

Getting back to the plan (Strategy #2) by communicating with your financial support teams:

- you and your family (to review your budget and explain the “why”);
- your hired support (to help your staff gain personal power by controlling their finances and to help your accountant, your banker, your financial planner help you get better results); and
- your customers (to get your pricing right, help them become A or B quality customers and introduce your new products and services to them. After all, it’s your customers who pay for everything, right?).

**Stay tuned for Strategy #5:
Empower your Support and Lead a
Championship Support Team**

As general contractor for her current home, Lynne identified that while trade contractors are great on the tools, they lack the knowledge to earn sufficient profit for the number of hours they invest in their jobs, cutting into their time off.

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PROMOTING Licensed Electrical Contractors in Ontario

By Lucy Impera, Registrar, Licensing and Certification ECRA/ESA

After just two years of licensing Electrical Contractors and Master Electricians, the Electrical Contractor Registration Agency of the Electrical Safety Authority is pleased to report that there are now over 6,900 licensed Electrical Contractors and over 8,200 licensed Master Electricians in Ontario.

ECRA/ESA is on a quest to find new ways to communicate the need to hire a licensed Electrical Contractor to consumers in Ontario. The state of our current economy will likely promote renovations to existing structures as opposed to the growth of new construction that we have been seeing in past years. This said, more private landowners, specifically homeowners, will likely undertake renovations on their own sites as opposed to making the move into a new home. Unfortunately, the most common violations encountered by our inspectors and licensing enforcement

officers are related to residential electrical work.

It is becoming increasingly important for consumers in Ontario to protect themselves and their wallets by being made aware of the importance of hiring licensed Electrical Contractors. In the fall of 2007, ECRA/ESA launched a Consumer Awareness Campaign advising the general public to "Plug In Safely." The campaign was comprised of mat stories printed in newspapers and industry magazines, radio ads, television interviews and a public service announcement that focused on informing the public of the importance of hiring licensed Electrical Contractors. If you are interested in viewing some of the highlights of this campaign, please visit our website at www.esaecra.info and click on "Awareness Campaign." Gary from ATEK Electric in Waterloo reported to ESA: "Your ads have helped educate

the public. Increasingly, I find customers want to know that I am properly licensed and insured. Your efforts are making a big difference!" As part of our Consumer Awareness Campaign kickoff, we also distributed promotional cards to all of our licensed Electrical Contractors. The cards have slots in the back of them for Electrical Contractors to insert their business cards and give to consumers whenever bidding on jobs. To order some promotional cards please visit our website.

ECRA/ESA has been working tirelessly to ensure compliance of the new regulation requirements in the Electrical Industry. Our main effort was the launch of the enforcement portion of the licensing program. In the fall of 2008, Durham Region News reported that two men acting as electrical contractors in Whitby faced charges of: mischief endangering life, fraud over \$5,000 and conceal or render



inaccessible under the *Criminal Code*. Under the *Electricity Act, 1998* they were also charged with failure to apply for an electrical inspection and for not having an Electrical Contractor Licence. These charges came after the two men completed a portion of a basement renovation in a residential dwelling. The homeowners refused to pay the men after they became suspicious of the quality of the work being done and contacted authorities. The faulty work included exposed live wires, overloaded receptacle boxes and wires not capped inside fuse boxes.

Since April 1, 2008, our efforts have turned up 15 convictions against unlicensed persons performing electrical work. Convictions are presented before the courts and the fines payable to the courts upon conviction range from \$150 to \$1,500. There were 1,083 compliance activities or actions undertaken by ECRA/ESA —941 of these activities were related to enforcement against unlicensed persons performing electrical work. Out of these 941: 487 inspections were performed, 550 Notices of Violations were issued and 21 prosecutions were concluded with 29 charges in total. These charges were mostly related to residential renovation type work carried out by individual people, “general contractors” and carpenters. Some of the specific types of work were kitchen and bathroom renovations, complete house rewires and panel upgrades. The charges were not concentrated around any one region of Ontario in particular but spanned from London to Garson and Kincardine to

Ottawa. Twelve prosecutions were still in process at the end of 2008, which referred to 13 charges pending in total. Twenty-nine unlicensed persons are still under investigation at 37 sites in Ontario.

ECRA/ESA plans to continue its efforts to inform the public of the need to hire licensed Electrical Contractors. In addition to our enforcement efforts, with the launch of the 24th Edition of the *Electrical Safety Code* this coming spring and many amendments to existing regulations, the Master Examining Board is working towards revamping the course and exam material to reflect these changes. ESA is now offering new Code training courses; please visit www.esasafe.com for the registration form and course schedule.

We hope that licensed contractors take the opportunity to explain the value of hiring a licensed Electrical Contractor to their potential and existing clients to increase awareness amongst the general public. ESA’s mission is to improve electrical safety for the well-being of the people of Ontario and our vision is an Ontario free of electrical fatalities and serious injury, damage or loss. We truly believe that the quality of the work performed by licensed Electrical Contractors and the values they hold will ultimately lead to a safer Ontario.

To the licensed Electrical Contractors and Master Electricians in Ontario: thank you for your efforts and daily support in the industry. Together we are making a difference.



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By Stanley Tepner

10 Tax Strategies Every Investor Should Know - Part I

*“A fool and his money are soon parted.
The rest of us wait until income tax time.”*

No matter how successfully you navigate the complex investment world, at the end of the day, you must face the gnarling teeth of the Canada Revenue Agency (CRA). You make, they take.

Yet there are numerous, easy-to-deploy tax strategies that you can use to keep more of what you earned. The key to successful investment tax planning is to follow the “3 D’s”: Deduct, Defer and Decrease.

- Deduct means that you should consider all the available tax deductions that you may claim to reduce your personal or family’s taxable income
- Defer simply means to structure your investment holdings so the tax bill you would have paid today will be paid tomorrow
- Decrease means seeking ways of paying less tax on your investment income.

Jean-Baptiste Colbert, the Finance Minister to King Louis XIV of France, is attributed

with this statement, which the CRA and every tax department in the world probably have framed in their offices: “The art of taxation consists of plucking the goose so as to obtain the largest possible amount of feathers with the least possible amount of hissing.”

Let’s take a look at 10 ways that you can maximize the feathers in your own nest, and generate greater after-tax investment returns using the “3 D’s.”

1. Different investment incomes have different tax teeth — beware the bite!

If you are going to use the tax rules to your benefit, it’s best to first understand how different incomes are taxed in Canada, because not all investment income is treated equally. Chart A lists the top tax rates charged on different kinds of income for an Ontario resident taxpayer, including surtaxes (as of Jan. 31, 2009).

CHART A. Top Marginal Tax Rates – Ontario 2009

	Marginal Tax Rate	Cash Retained per 1,000 Income
Employment Income	46.41%	\$535.90
Interest	46.41%	\$535.90
Foreign Dividends	46.41%	\$535.90
Canadian Dividends - eligible	23.06%	\$769.40
Canadian Dividends - small company	31.34%	\$686.60
Capital Gains	23.20%	\$768.00
Return of capital (deferred capital gains)	0.00%*	\$1,000.00

*23.20% when eventually realized

Source: www.taxtips.ca

The chart suggests that all incomes being equal, it is better to generate income as return of capital, which defers the recognition of income into the future, at which time it will be subject to the lower capital gains rate. Alternatively, it is better to receive Canadian dividends and capital gains for tax purposes than it is to earn interest and foreign dividends.

Remember, of course, that this assumes equal amount of incomes. As the pre-tax return from a lower-taxed vehicle increases (for example, a Canadian dividend-paying stock appreciates by 12 per cent a year, on top of its dividend yield), the total tax paid on the combination of growth (when the stock is sold) and the dividend may well exceed the total tax paid on an interest-generating investment.

2. Restructure your portfolio to reduce the potential tax bite.

Canadians have been fortunate to have access to Registered Retirement Savings Plans (RRSPs), which provide not only tax deductions for amounts contributed to the plans, but a haven in which all kinds of investment incomes earned are not taxed until they are withdrawn from the plan (and then taxed like interest – at the highest rate).

As of January 2009, Canadians have a new tax haven, the tax-free savings account (TFSA). While the TFSA does not provide tax deductions for contributions, all incomes earned while inside the plan, and all capital and incomes withdrawn from the plan are free of tax. Any Canadian resident, aged 18 and over, can contribute up to \$5,000 annually to a TFSA (contribution limits are subject to indexation in the future).

What this means is that you should carefully examine the components of your investment portfolio for their growth, income and income tax potential, and consider which

components should be allocated to the tax shelters provided by RRSPs and TFSAs.

You may have an existing investment that ought to be inside one of the registered plans. You don't necessarily have to sell it, contribute the money to the plan, then buy it back inside the plan; instead, you may make a contribution "in kind" to the plan, subject to the prevailing contribution limits.

If you have already reached your contribution limits, but still want to move that investment inside the plan, then consider executing a "swap" of investments of equal value. A "swap" is a transaction where investments of equal value are exchanged, say between one's open investment account and one's RRSP. When a swap occurs, neither an RRSP contribution nor an RRSP withdrawal will have taken place, simply a transaction where, say a new \$10,000 GIC is swapped to the RRSP in exchange for \$10,000 worth of an equity mutual fund. The mutual fund begins its life in the taxable environment with a \$10,000 adjusted cost base (ACB). The GIC will continue to live its life within the tax-sheltered environs of the RRSP.

The only proviso about making contributions in kind to RRSPs and TFSAs is that when the contribution occurs, the investment is deemed to have been disposed of at its market value at the time. This may trigger a capital gain or a capital loss. If it is a gain, the taxpayer has to record the gain with their income for the year. If it is a loss, unfortunately, then the taxpayer cannot use the loss to offset their capital gains. As a result, you generally do not want to make contributions in kind for assets that have accrued losses.

3. Mutual fund taxation – Don't get taxed twice!

Mutual funds are widely held instruments in investment portfolios in Canada. Unfortunately, many investors are over-paying taxes on their mutual fund earnings by not paying close enough attention to the history of their fund's investment income. There are two ways you can be taxed when you own mutual funds:

- From dispositions – when you sell all or part of your mutual fund holdings, and
- From distributions – when a mutual fund distributes its income and capital



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gains, either in cash, or in the form of re-invested new fund units; you normally receive a T3 or T5 tax slip with your allocation of the income for tax purposes.

The double taxation problem often arises when an investor sells a mutual fund after having received distributions in the form of new fund units. The value of these units should be added to the ACB of the mutual fund, which increases its cost for tax purposes, and reduces the future potential capital gain. Yet too many investors forget to bump their ACBs. They simply report their capital gain as the difference between their final proceeds and their original cost. So they end up paying tax twice on the income that had been distributed on the T3s and T5s.

Chart B details how to calculate a mutual fund's adjusted cost base (the same calculation can be done for stock investments with dividend re-investment programs – DRIPs – for example). Too many investors simply calculate the capital gains as $\$20,000 - \$10,000 = \$10,000$. It actually amounts to $\$6,000$.

CHART B. Avoid Double Taxation on your Mutual Funds

EXAMPLE	
Original investment in growth fund	\$10,000
Cumulative re-invested dividend income	\$2,000
Cumulative re-invested capital gains	\$2,000
Proceeds on complete redemption	\$20,000
SOLUTION	
Adjusted Cost Base (ACB) =	\$10,000 + \$2,000 + 2,000
Capital gain = Proceeds	\$20,000
Less ACB	14,000
	\$6,000

4. Other mutual fund tax strategies

- a. **Track your ACBs.** Keep a chart (Excel spreadsheets are excellent) to track your ACBs, year by year. You can get the information directly from your T3 and T5 slips. When in doubt, call the client service desk at the mutual fund company for assistance.
- b. **Track your systematic withdrawal amounts.** If you are taking regular cash flow by redeeming mutual fund units (monthly, quarterly, or however), remember that each withdrawal is a

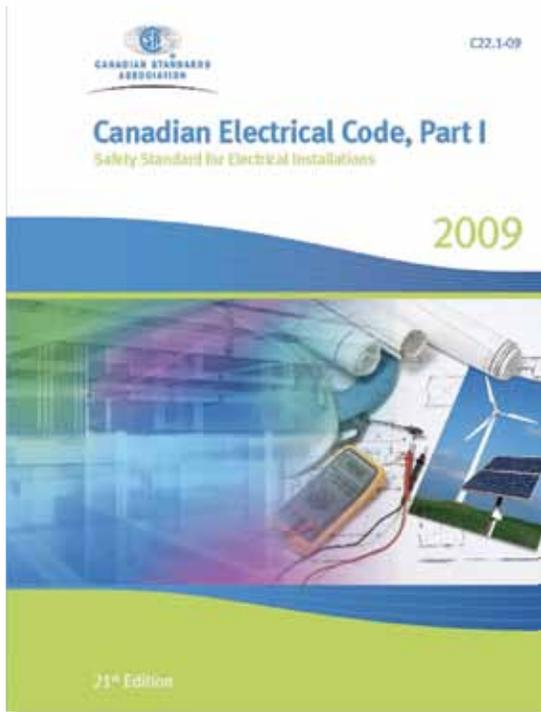
disposition for tax purposes and triggers a capital gain or loss. Make sure you calculate each one for the year's tax return. This is particularly important when markets are significantly lower than they had been, and many dispositions could generate capital losses, which can offset past, present and future capital gains.

- c. **Beware of the “year-end fund-buyer’s blues.”** Mutual fund companies usually make their largest distributions, for their entire year's capital gains, in one fell swoop, around the last quarter of the calendar year (usually on September 30, December 15, or December 31). If you acquire units in the fund just before the distribution record date, you will also receive the distribution. While this may sound appealing on the surface, it really isn't. While it is true that you will receive a distribution in either cash or new mutual fund units right after acquiring your investment, the market value of your investment will coincidentally drop by the value of the distribution received. As a result, you are no better off on your investment statement. However, you will probably take an economic hit for the income taxes that may be payable on the distribution you received. The solution is to inquire about the possibility of a material distribution coming, prior to making your investment in the fund. If one is expected, it may make sense to defer your investment.
- d. **Beware of the “built-in tax bite.”** Mutual funds distribute income and capital gains based on the history and activity of its own portfolio, not based on your personal history with the investment. So you may find that a fund that interests you has a portfolio whose cost base is dramatically less than its current market value. This could stem from the fund owning many holdings that appreciated over long, long periods of time. Or it could be due to some skillful shorter-term stock picking. In either event, the fund has a significant accrued, but unrealized, capital gain. If the fund managers should choose to unload these positions, the fund will distribute large capital gains to all unit holders at distribution record date. If you are a recent investor, you may experience a disproportionately large capital gains tax bite that stemmed from the “built-in” accrued capital gains.
- e. **Consider corporate-structured mutual funds for the benefit of tax-free switching among funds in its family.** Many mutual fund companies offer both trust structures (the traditional approach) and corporate structures on their menus. The most popular is the latter as it permits one to switch from fund to fund to fund around the family without triggering a capital gain. It also permits the fund company to allocate some forms of investment income more efficiently.



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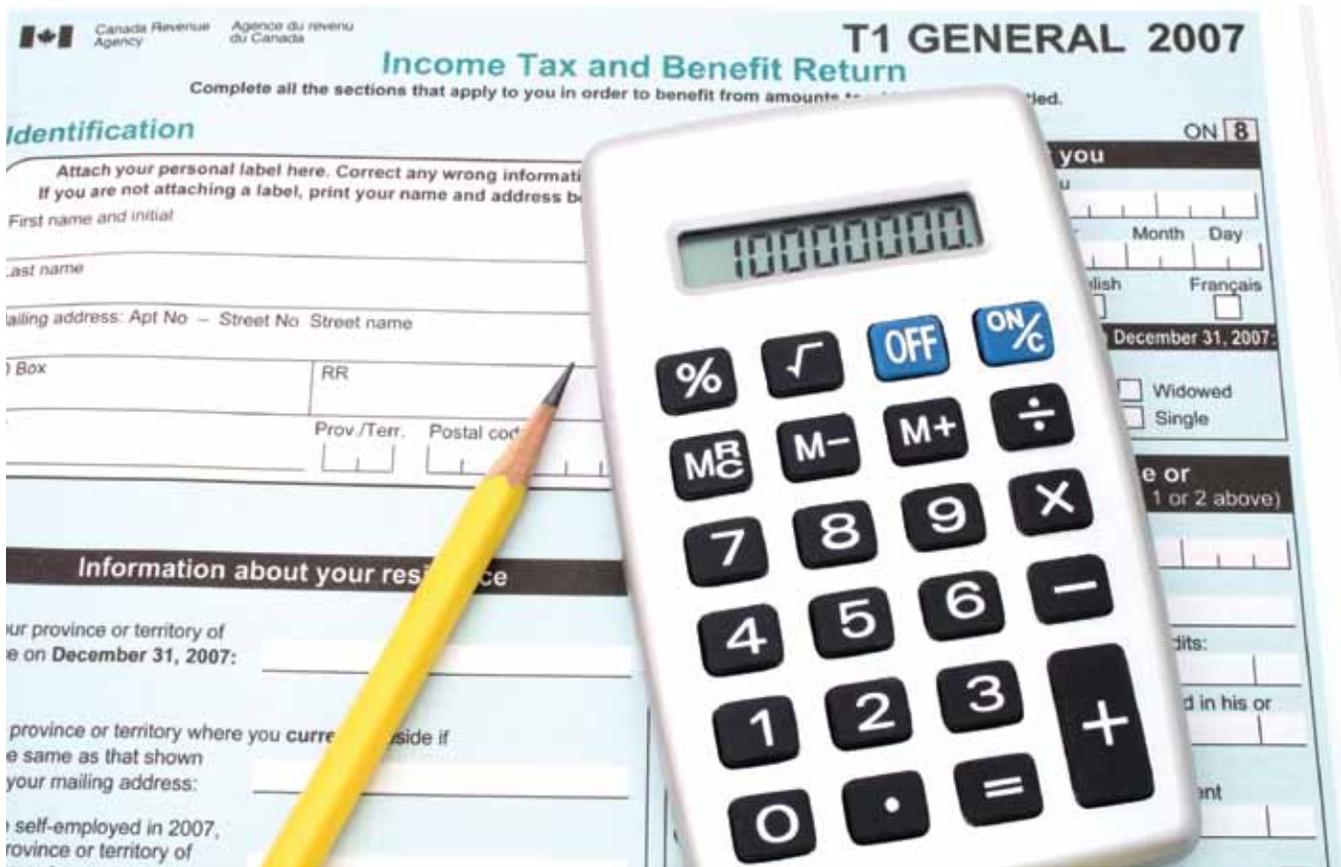
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f. **Consider managing your tax exposure with the “new breed of tax-busting mutual fund”.** (see ECAO magazine, Summer, 2008) As we can see from Chart A, different forms of investment income attract different rates of taxation. Investors seeking the safety of bonds and GICs, for example, are faced with having to pay the highest rate of tax on their earnings. Last summer I wrote about a new mutual fund structure that enabled investors to decide, in advance, how they wanted to have their investment earnings taxed: as capital gains, as Canadian eligible dividends, as return of capital (ROC) or to have the earnings deferred until the underlying investment is sold. Using this structure, a bond investor could choose to receive his or her income in the form

of lower-taxed capital gains, or could even choose to defer the taxation of the income until the investment was sold. This structure provides Canadian investors with the ultimate control over the investment taxation destiny.

Coming next issue:

In Part II of this series, we will look at ways to manage your past, present and future capital gains; review the latest RRSP rules and see why making spousal contributions still makes sense to a lot of investors; review the income-splitting benefits of making low-interest loans to one’s spouse; look at the deductions offered by resource-based flow-through investments; and, consider the most tax-efficient way to make charitable donations.

Stanley M. Tepner, MBA, CA, CFP, TEP, is a First Vice-President and Investment Advisor with The Tepner Team at CIBC Wood Gundy in Toronto. He can be reached by telephone at 416-229-5566 or 1-800-488-8688 or by e-mail at stan.tepner@cibc.ca.

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Industry Briefs



LUMINOL TR and TRi Meet CSA Requirements

Petro-Canada recently announced that their LUMINOL TR and TRi electrical insulating fluids are the only fluids in the Canadian market today that meet the new Type III and Type IV special requirements introduced by the Canadian Standards Association (CSA).

The new requirements were created to ensure that electrical insulating fluids perform under the increasing demand put on today's HVDC and shell-type power transformers, free-breathing transformers operating under overload conditions and reactors.

"Today's transformers are more heavily loaded than ever before," says Jennifer Lai, Petro-Canada's Specialty Products Category Manager. "The industry has recognized the increased need for higher levels of oxidative stability from insulating fluids and the new CSA category upgrades reflect that need. Our LUMINOL brand has always stood out as one of the highest quality electrical insulating fluids available and we're proud to announce that, without any reformulation, both the TR and TRi formulations meet the newly upgraded CSA special requirements."

The new specification, now referred to as CSA C50-08 (formerly CSA C50-97) includes four revisions: upgraded ASTM D1275B corrosive sulphur testing, addition of a reclaimed oil category, limits for 2-furaldehyde, and most notably, two new fluid categories – Type III and Type IV. Fluids meeting the new Types III and IV will offer increased levels of protection and performance and are also suitable for general use where a much longer oil life is desired. A copy of CSA C50 can be obtained at www.shopcsa.ca.

"Specifications and requirements become more stringent as workloads increase," says Lai. "When we develop and formulate fluids we always look to the future to ensure that our products will be useful for multiple

applications for years to come. Our LUMINOL family of fluids represents a breakthrough in electrical insulating fluids technology and is a great example of Petro-Canada's dedication to innovation."

LUMINOL TR meets the Type I and now also the new Type III category. Type I covers oils that are uninhibited (i.e., $\leq 0.08\%$ DBPC); Type III covers oils that are also uninhibited but with higher oxidative stability (as tested at 120°C/248°F for 332 hours). LUMINOL TRi meets the Type II and now also the new Type IV category. Type II covers oils that are inhibited (i.e., between 0.08 and 0.40% DBPC); Type IV covers oils that are also inhibited but with higher oxidation stability (as tested at 120°C/248°F for 500 hours).

LUMINOL TR and LUMINOL TRi are ideal for use in large power and distribution transformers operating at peak capacity. Petro-Canada's ultra-pure severely hydrotreated iso-paraffin base fluids help LUMINOL minimize power loss and maximize productivity. The fluid can withstand energy spikes, as well as hot and cold weather extremes better than naphthenic electrical insulating oils. Their naturally high oxidation stability resists breakdown longer and helps provide extended service life, resulting in less maintenance and top-up.

For further information call 1-800-268-5850 or visit www.lubricants.petro-canada.com.

Dean Becomes Arlington Sales Manager

Arlington Industries recently announced the appointment of Bruce Dean to the position of Canadian National Sales Manager.

He will manage the Arlington product line with the six representatives in Canada to the electrical distributor network.

Dean has worked in the electrical industry since 1978. Most recently, he was the sales manager for Leonard Electric. Prior to that he spent 16 years with the Westburne organization holding various sales and marketing positions in the electronic and electrical divisions.

Dean and his wife, Judy, reside in Burlington, Ontario. They have two grown daughters. He can be contacted by e-mail at bdean@aifittings.com.



Toolbox Talks

030: FIBRE OPTICS, INDOORS

Basic Concepts

The primary safety hazard unique to optical fibre is broken shards of fibre. These are, in effect, microscopic glass needles. They make terrible splinters and can be very hazardous to your health if ingested.

A major hazard unique to optical fibre is that the light passing through fibers is invisible to the human eye. So, you can look at a fibre, see nothing, and still burn your retina. This is a significant concern on higher-power optical systems. Cable TV networks and some data transmissions use power sufficient to cause such damage.

When working indoors, you will likely have safety concerns that you didn't have when outdoors. You may have to work overhead of production areas. You may have to work around piping from other systems, including steam and process piping. You may have to deal with foot traffic, lift trucks, and other crews all vying for the same space you are working in.

General Safety

Do not inspect live cable ends. Fibres must be dark when inspected. Use a power meter to determine the fibre status.

Wear eye protection at all times. If you are working with live cables, wear eye protection specified for infrared filtering.

Post the appropriate warning signs and erect the appropriate barriers (such as tape) before performing splicing or termination work.

Do not touch your eyes or handle contact lenses until you have thoroughly washed your hands.

Do not allow any food or drink in areas where fibre termination is being done.

Clear your workstation after doing any work involving termination or anywhere where there may be broken pieces of fibre. Gather all stray pieces of fibre and place them in a sealed container for disposal.

Pat yourself down with adhesive tape when you complete any work involving termination of fibres. Ensure you have no fibre optics fibres on your clothing, wash your hands at the nearest hand washing facility.

Read and understand the MSDS for any solvents you use.

Installing Cable

Roll the cable off the spool, rather than spinning it off the spool end. This prevents damage to the cable, while also reducing the chances of a whip-like injury.

When laying cable out for a long pull, use a figure 8 on a safe, clean, flat surface. This prevents twisting. A twist in the cable makes it harder to work with, and thus a strain or muscle pull more likely. It also creates a tripping hazard.

Use a swivel-pulling eye to reduce the chances of twisting.

Attach the cable to a pulling line by using the method recommended by the cable manufacturer. This prevents a loss of cable during a pull. A sudden loss may cause people who are pulling the cable to overextend themselves.

When pulling, use a smooth force so you don't break the cable.

Ceilings And Overhead Trays

Follow your foreman's instructions regarding asbestos, insects, moulds and other health hazards. Each area of the site might have its own characteristics.

Do not climb into trays that hold energized cable.

Do not operate a lift unless you are officially qualified to do so.

Confined Space

Identify all fibre cables that contain any metal components: Armour, conductors and strength members. Keep all conductive materials away from live parts.

When pulling cable in confined areas, be especially careful of metal fish tapes, basket grips, swivels and pulling eyes.

If you are working in an area where other workers can't carry you out, have an attendant who can pull you out with an extraction harness.

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Some combinations just don't make sense.



Exhibit A: "The Ply-Swatter"



Exhibit B: "The Cheese-Grating Hard Hat"

Some do.

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