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The Ontario



A typical weld in the automotive industry. Photo Credit: Cover photo courtesy of The Kennedy Group.

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President's Message

GETTING PAID

ne of the electrical contractors' primary concerns relates to getting paid for the work we do. After all is said and done, our success is determined by our ability to collect what is owed to us for satisfactorily completing our contracts.

At the end of 2004, the courts ruled against Kennedy Electric, deciding that the installation of assembly line equipment in a building built for the purpose of housing the line is not covered by the *Construction Lien Act*.

This decision has the potential to change the economics of industrial construction, a field of work engaged in by virtually every ECAO member. For more than 20 years most parties to industrial work have operated under the belief that the *Lien Act* provided the necessary leverage to ensure payment. This protection has now been challenged, adding significant financial risk for contractors. More risk means higher prices and fewer players.

Charles Wiebe and Markus Rotterdam of Glaholt LLP have written a commentary on the Kennedy decision and some thoughts on how industrial contractors may manage their payment security going forward.

ECAO and other associations are committed to supporting an appeal of this decision as well as lobbying for legislative change. The Ontario Electrical Contractor will keep you informed of developments as they happen.



By Dave Mason



President's Message

Another related item in this issue is the newly formed National Trade Contractors Coalition of Canada, whose mandate is to address national issues of mutual concern to trade contractors – including getting paid promptly and fairly for work performed.

You'll also find an article on ECAO's involvement in the Electrical & Utilities Safety Association's Skills Development Centre, which will become their permanent site for classroom-based and hands-on safety training.

Elsewhere in this issue, we examine retirement strategies for entrepreneurs and their employees. The information is supplied by Debbie DeCaire of Skipwith & Associates who has been providing these services for ECAO members for more than ten years.

On the technical side, Ted Olechna reviews insulated bond conductors for sensitive electrical equipment and the Toolbox Talks concentrate on arc fault hazards.

As always, I welcome your comments about any issue you have read about or would like to see covered in your magazine.

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KENNEDY ELECTRIC LTD. V. RUMBLE AUTOMATION INC.

A Case Comment by Charles G.T. Wiebe and Markus Rotterdam, Glaholt LLP

In 1963, the Supreme Court of Canada released its landmark decision on the interpretation of lien legislation. In *Clarkson Co. Ltd. v. Ace Lumber Ltd. (1963 S.C.R. 110)*, the court held that while the lien statute merited a liberal interpretation with respect to the rights it conferred upon those to whom it applied, it had to be given a strict interpretation in determining whether a lien claimant was a person to whom a lien was given. In other words, it was going to be hard to get in, but once you were in, you would be treated with compassion. Kennedy Electric Ltd. v. *Rumble Automation Inc. (2004 O.J. No. 5091 (S.C.J.)* is one of the numerous decisions that used the Supreme Court's decision to deny a potential lien claimant the right to lien.

The facts in *Kennedy Electric* were straightforward. Dana contracted with Ford to build frames for the Ford F150 pickup truck. Dana developed a two-stage process for the contract, the first step being the construction of a building addition, which would house the assembly line; the second being the design, construction and installation of the line itself. The addition was built by a separate contractor. Rumble Automation entered into a contract with Dana for

Rumble and Dana responded that the building addition was a separate and independent construction project and that while the addition was clearly an improvement for the purposes of the Act, the line was clearly not. They argued that the line could at any time be disassembled and taken elsewhere, and consequently did not become part of the addition.

the design, building and installation of an assembly line for manufacturing the truck frames. The installation itself was to be done in two stages as well. The line would be built and tested in Oakville and Mississauga, then disassembled, shipped and reassembled at the new plant in St. Mary's. The plaintiff, Kennedy, was hired to disassemble the line, ship it on 165 trucks, develop a layout plan and install the line at St. Mary's. It was for this work that Kennedy and its subcontractors tried to lien. The key components of the line were 100 mezzanine platforms and 165 robots. The final line covered about 100,000 square feet, was about 20 feet tall and weighed approximately half a million tons.

Kennedy argues that the entire project, i.e. the building addition and the assembly line, constituted one integrated project within the meaning of the Construction Lien Act. In support of its argument that the line constituted an improvement under the Act, Kennedy emphasized its sheer size and weight, the fact that the line was to remain in place for at least eight years, that it was affixed to the floor by a complex system of about 3,000 mechanical and chemical bolts, that the vast majority of the line was hardwired into the building's own services, and that the building addition was designed for the specific purpose of housing the line. These facts, Kennedy submitted, clearly constituted the line an improvement that benefited and enhanced the value of the property.



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The court reviewed the pertinent case law in some detail. As early as 1952, the Ontario Court of Appeal held that the installation of machinery used in a business operated inside a building did not give rise to a lien (*Hubert v. Shinder* (1952) O.J. No. 23 (C.A.). The machinery in question



Should the *Kennedy* appeal fail, the court will likely find that you have no lien rights. was laundry equipment. The New Brunswick Court of Appeal disallowed a lien for the installation of a corrugated paper machine weighing 2,500,000 pounds, holding that the machine, including its concrete foundation, was not sold as a component of the building. In that case, too, the building was specifically designed to house the machine. In another Ontario decision, a large water tower installed on the roof of a manufacturing plant was held not to be an improvement (*Baltimore Aircoil of Canada Inc. v. Process Cooling Systems Inc. (1993), 16 O.R. (3d) 324 (Gen. Div.); reversed on other grounds 30 O.R. (3d) 159 (C.A.).* Two British Columbia decisions that had been relied upon by Kennedy were distinguished because unlike its Ontario counterpart, the definition of "improvement" in the British Columbia Act stressed "attachment" to land.

Based on the case law and the evidence in this case, Justice Killeen concluded that the assembly line, being manufacturing equipment, could not be considered as part of an integrated construction improvement within the building addition, nor could it be considered as a freestanding, independent improvement giving rise to a lien. He held that Kennedy had no lien. The decision is under appeal.

What, then, can suppliers of such equipment do to secure payment? Pending the appeal in *Kennedy*, they can lien away, hoping the appeal will succeed. This is risky, as the weight of lower court decisions, at least in Ontario, is that the fabrication and installation of such equipment



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does not give rise to lien rights. Should the *Kennedy* appeal fail, the court will likely find that you have no lien rights. One can enhance one's chances of having liens upheld by including references in the underlying contract to aspects of the lien remedy, such as holdbacks and trust obligations. Justice Killeen relied upon such contractual references to the lien remedy to assist in his determination. But, by no means are such references conclusive of the issue.

One can alternatively choose to secure one's claim to payment under the *Personal Property Security Act (PPSA)*. This Act does not apply to fixtures in land. A detailed discussion of the PPSA is beyond this note; however, where your contract conveys to you some form of "security interest" in the property installed, such as the retention of title until payment clause, you should explore with your lawyer the PPSA option. Such an interest can be secured under the PPSA as a "purchase-money security interest" which, if secured in a timely way, has priority to any other security interest in the collateral. The risk of course is if the *Kennedy* appeal succeeds. Once you choose the PPSA option, you cannot then choose to lien. The owner will in any event argue that your supply is a lienable supply whatever the outcome of the *Kennedy* appeal.

Perhaps, in light of this uncertainty, the best course of action is to simply require a substantial down payment as a condition of your supply. With money in hand, the risk of non-payment is reduced accordingly. In addition, you should exercise all your contractual remedies to cease working as soon as there is non-payment of periodic payments. The customer should be advised that your rigorous approach has been made necessary by the uncertain state of the law. In this way, customers will be kept as current as possible on their accounts, and the scope of any dispute, regardless of what option you choose to fight it on, will be minimized.

Charles Wiebe and Markus Rotterdam are with Glaholt LLP, Toronto, Ontario and can be reached by e-mail at cgtw@glaholt.com.



feature JEPP BECOMES FIRST SKILLS DEVELOPMENT CENTRE SPONSOR

The Joint Electrical Promotion Plan (JEPP) is the first major contributor to the Electrical & Utilities Safety Association (E&USA) Skills Development Centre, as a founding sponsor at the \$100,000 level. The JEPP, a joint body of the Electrical Contractors Association of Ontario (ECAO) and the International Brotherhood of Electrical Workers (IBEW), is working to promote careers in electrical trades.

"The JEPP wishes to make a positive contribution to addressing the skilled trade shortage in the electrical utility industry," said Eryl Roberts, ECAO Executive Vice-President. "The E&USA Skills Development Centre presented an laboratory after working outdoors to review procedures and work with specific equipment and tools. The laboratory will also allow equipment storage of participants' own tools.

The hands-on practical training, conducted outdoors, comprises over 80 percent of E&USA's programs and complements the classroom and laboratory experience. The outdoor portion includes an underground hydro 'system' with aboveground transformers, a water distribution system, confined space access chambers for practice and rescue demonstration as well as overhead/above-ground systems including utility poles, anchors, hydro and telecommunications conductions

opportunity to further that objective just at the time when we are faced with this increasing demand." The line worker apprentice program which has been offered by ECAO and E&USA for a number of years in various locations will now have a permanent home at the Centre.

The 7000 square foot facility, located



In attendance at the official cheque presentation are (from left) Ted Vandevis, E&USA President & CEO, Jack Dowding, IBEW Power Council, Eryl Roberts, ECAO Executive Vice-President, James Kellett, E&USA Director and Julian Hogeterp, E&USA Strategic Development Consultant.

in Mississauga, will become E&USA's permanent site for classroom-based and hands-on safety training. E&USA trains, on average, nearly 8,000 participants each year in the electrical utility, power generation, water, utility forestry, and telecommunications industries with a training program of over 100 courses.

A number of E&USA's training programs and courses are offered in the traditional classroom setting and cover theoretical components of occupational health and safety. The new Skills Development Centre will also include a non-traditional training laboratory which will allow participants to enter the health and safety, skills development, and training. E&USA has been training safety leaders for decades, and now with JEPP's support, we are well on our way to building for the future."

E&USA and the ECAO have been partners on trades training and skills development for over three decades. The Skills Development Centre sponsorship ensures that partnership will continue into the next generation.

This sponsorship contributes to the Skills Development Centre's \$1.6 million capital fund.

and/or cables and related equipment and switchgear. The Centre's six-acre site will also house two aerial bucket trucks, a radial boom truck, a pole trailer, two tool trailers and a utility trailer.

"We are thrilled to have the JEPP sign on as a founding sponsor," said E&USA's President & CEO, Ted Vandevis. "They have shown true leadership in supporting

INSULATED BOND CONDUCTORS FOR SENSITIVE ELECTRONIC EQUIPMENT JLE 10-906(9) AND 4-036 (1)(A)

Rule 4-036.

By Ted Olechna

here have been questions raised asking what are the requirements when an installation is designed requiring a clean bonding conductor.

Subrule 10-906(9) permits an insulated bonding conductor, serving as a receptacle or hard-wired equipment, to pass through panelboards, extending back to the main distribution switchboard and connected to the case or grounding bus at that point in the main distribution switchboard. It does not permit the separate bonding conductor to pass through the main distribution switchboard to a separate grounding electrode.

The subrule also requires that the separate bonding conductor is enclosed in the same raceway or cable containing the circuit conductors throughout the length of that cable or raceway; and that the separate bonding conductor is sized not less than that given in Table 16 (below) for each leg of the run, determined by the size of the overcurrent protection for the circuit conductors.

One of the reasons for using a clean bonding conductor for a receptacle is to control harmonic distortion in sensitive electronics from operational degradation, disruption, or damage, sometimes referred to as clean power.

Industry practice has been to use the red coloured conductor identified as green in a three conductor AC-90 type armoured cable and nonmetallic sheathed cable for the insulated bond conductor for isolated ground circuits. The red conductor was permitted to be suitably labeled or marked in a permanent manner with a green colour at each end point where the conductor was accessible. This practice is in contravention of Rule 4-036.

In the past, this method of installation was accepted as a deviation under Rule 2-030 because there was no approved armoured cable or nonmetallic sheathed cable available that contained both an insulated green bond conductor and a bare bond conductor. Products are readily available that are certified for use and meets the requirements of

Recently, the Electrical Safety Authority conducted an investigation where a worker received an electrical contact resulting in burns and numbness to the left hand. The root cause of this incident was determined to be the use of three conductor armoured cable for an isolated ground receptacle circuit. The red coloured conductor was intended to be used as the insulated bond wire, however it was not properly identified as green and was terminated on a breaker at the panel. This error created a shock hazard by energizing the case of the cord connected equipment plugged into this receptacle.

Direction: It is a requirement of the OESC that cable assemblies used for isolated ground circuits shall have a bare bond conductor and an insulated, continuously, green coloured bond conductor. Conductors coloured red and identified as green will no longer be acceptable.

Ted Olechna is a Provincial Code Engineer with the Electrical Safety Authority. He can be reached by e-mail at ted.olechna@ElectricalSafety.on.ca.

Minimum Size Conductors for Bonding Raceways and Equipment		
Rating or Setting of Overcurrent	Size of Bonding Conductor	
Equipment, Conduit, Etc. Not Exceeding — Amperes	Copper Wire AWG	Aluminum Wire AWG
20	14	12
30	12	10



feature WHAT YOU NEED TO KNOW – IPPS AND RRSPS EV Deblie DeCaire PFP

IPPs – Individual Pension Plans RRSPs – Registered Retirement Savings Plans

"Someone's sitting in the shade today because someone planted a tree a long time ago."

Warren Buffett

An Individual Pension Plan (IPP) is one of the best-kept secrets in the field of retirement planning for entrepreneurs and executives. An IPP is a defined benefit pension plan that is registered with the Canada Revenue Agency (CRA). Defined benefit means that the pension amount is determined by a specific formula when the plan is established. The IPP is custom designed and takes into account each participant's particular needs and personal situation. High income individuals over the age of 45 benefit the most from an IPP since its maximum contribution limit is higher than in an RRSP. With an IPP your retirement income is guaranteed and all contributions grow on a taxdeferred basis. The IPP is entirely funded by the employer and the contributions and all costs of the plan are fully tax-deductible. The risk is taken by the employer therefore poor returns lead to an additional tax deductible contribution for the company. The retirement benefits, however, are not reduced and the employee makes no contributions. It is also possible to use an IPP for "past service funding."

A **Registered Retirement Savings Plan (RRSP)** is a retirement savings plan to which you and your spouse or common-law partner contributes. Any income you earn in the RRSP is usually exempt from tax for the period the funds remain in the plan. However, you generally have to pay tax when you receive payments from the plan. With an RRSP, retirement income depends on the contributions and returns. Contributions are tax deductible for the employee and poor returns reduce the employee's

retirement benefit. The simplest way to determine your RRSP contribution limit is to look at your CRA "Notice of Assessment." For 2005 you may contribute 18% of your previous year's income to a maximum of \$16,500 plus any unused contribution room from previous earning years since 1991. You are also allowed to over contribute to your RRSP by \$2,000, however, you will not receive a deduction for this over contribution until you have further unused contribution room. It will, however, continue to compound tax free in your RRSP. If your over contribution is more than \$2,000, a penalty of 1% per month will be levied on the amount over \$2,000.

You may contribute to your own RRSP or that of your spouse. Contributing to your **Spousal RRSP** will effectively allow income splitting (withdrawing income from your RRSP more evenly) upon retirement thus reducing your overall taxes. It allows the spouse with the higher income to take the tax deduction when contributing and the spouse with the lower income to remove the funds from the RRSP at a lower tax rate prior to retirement.

The **Home Buyer's Plan** allows you to remove funds from your RRSP in order to purchase a first home. If you are married both you and your spouse may each contribute up to \$20,000 from your RRSP's towards your purchase (\$40,000 in total). A first home means that neither of you can have been a home owner for the previous four years. You have 15 years to pay back the amounts to your RRSP however, when you pay back your RRSP there is no additional deduction. If you fail to make an RRSP payment the minimum re-payment amount will be added to your income.

For most workers, primarily "middle income" earners, contributions to a **Group RRSP** are an efficient retirement savings vehicle and you get immediate tax relief. It provides you with investments from a variety of top managers and the fund management fees are much lower than you would pay investing on your own. A \$25 contribution only costs you \$15 off your net pay (assuming a 40% tax bracket) because you get your tax break when each contribution is made. A Group RRSP can also be a painless way to save, as your contribution is deducted from your pay cheque before you have a chance to spend it somewhere else. The more you save and the longer you can do so, the bigger your retirement income.

Whether you're five months, five years, or even 25 years away from retirement, it's never too early or too late to start planning. Making the right moves with your money right now can make a big difference in how comfortable your retirement will be.

Debbie DeCaire, PFP, is an associate of Skipwith & Associates Insurance Agency Inc. and heads up the company's Barrie, Ontario office. She can be reached by e-mailing ddecaire@skipwithassoc.ca, or calling 866-529-2988.

TAX TIPS

- If you have earned income and are over 69 years of age at the end of the year, you can still make a contribution to your spouse or common-law partner's plan if he or she is less than 70 years of age at the end of the year.
- During those years that your income may be lower (i.e. you have a child or you return to school) it may be more advantageous to not repay your RRSP and take the tax hit. If you have an income of less than \$4,000 it doesn't make sense to pay back the RRSP.





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Present at its second meeting are members of the National Trade Contractors Coalition of Canada (from left) Martin Deely, Canadian Masonry Contractors Association, Brian Thompson, Canadian Institute of Steel Construction, Mike Gilmore, Canadian Institute of Steel Construction, Tom Vincent, Mechanical Contractors Association of Canada, John Blair, Canadian Masonry Contractors Association, Richard McKeagan, Mechanical Contractors Association of Canada, Eryl Roberts, Canadian Electrical Contractors Association, John Galt, Canadian Automatic Sprinkler Association, Tom Kurton Jr., Thermal Insulation Association of Canada, Manuel DaCosta, Canadian Roofing Contractors Association and Grant Neal, Canadian Automatic Sprinkler Association.

n December 2004, representatives of the major National Trade Contractors Associations met to discuss the idea of forming a coalition whose mandate would be to address national issues of mutual concern specific to trade/subcontractors.

The group met again in February 2005 and the National Trade Contractors Coalition of Canada (NTCCC) was born representing the mechanical, electrical, masonry, steel, fire suppression, roofing and thermal insulation sectors of Canada's construction industry. These stakeholder groups, including the Canadian Electrical Contractors Association, have agreed to financially support the future initiatives of the Coalition.

The appointed spokesperson, Richard McKeagan, President of the Mechanical Contractors Association of Canada, said the coalition "intends to work cooperatively with other national associations to reach their goals [and] address issues on its own, where and when appropriate." Although the Canadian Construction Association's Trade Contractors Council is intended to provide a forum for trade contractors, Mr. McKeagan states, "that's not really a forum for national associations to work together cooperatively."

The NTCCC intends to support the actions of the Canadian Construction Association (CCA) contingent upon CCA endorsing the recommendations contained in the draft of the Bid Depository Education Strategic Plan developed by CCA's Bid Depository Task Force in September 2004. Failing that endorsement, the Coalition intends to promote the use of bid depositories across Canada unilaterally.

The Coalition also intends to develop a communications/education strategy for all trade contractors which will illustrate the benefits of using standard contracts, highlight the hazards and consequences of unfair terms and conditions and make recommendations on how to get paid promptly and fairly for work performed.

To support this strategy, the NTCCC will conduct a series of seminars and meetings in various locations across Canada. In addition, the Coalition will pool its collective resources to create a "best business practices" library available nationally to all trade contractors.



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Arc Fault Prevention

You can prevent some arc faults by following two simple rules:

Use the one-handed measuring method. Use only one hand for attaching or removing test leads. This reduces the likelihood of your being shocked across the heart and it eliminates causing an ionization trail between the leads.

Don't assume lockout/tagout rules have been followed and don't assume a given circuit is de-energized just because they have. Always measure. A "wiggy" may indicate a safe situation when conditions are actually dangerous. The standard rule is "check your meter, check the object, check your meter." This means you measure a known source, such as a 120V receptacle, to ensure the meter is measuring. Next, measure the object, and then re-check the meter.

Arc Fault Injury Prevention

You can't prevent every arc fault. Thus, you must take the appropriate safety precautions:

Report unsafe conditions immediately. Most electrical fatalities and disabling injuries result from a string of safety violations and/or a combination of unsafe conditions and unsafe acts. The presence of one indicates more are lurking.

Wear your safety glasses and hardhat any time you are around energized switchgear or other energized electrical equipment. Many people remove their safety glasses and hardhat when they enter a small building or room dedicated to switchgear. After all, the room is clean and nobody is operating rotating equipment. This practice, however, is dangerous because an arc fault can happen at any time without warning.

Don't create an ionization trail across your hardhat. The hat is made from an insulating material. OSHA has limits



on the amount of hardhat space you can cover with stickers. A rule of thumb is one on each side, one on the front, and one in the back. Dry transfer lettering, magic marker, and paint can create a conductive path across your hat.

Use insulated gloves when working on energized equipment at 480V or above. Be sure you test the gloves before each use, using the roll-up method described in the product literature that comes with the gloves. Do not blow into the gloves.

Never work alone on energized circuits. Ensure you and your partner are familiar with the circuits being worked on, know the location of emergency shut-offs, know the fire escape routes and have a way to immediately call for help. It's also good if you both have training in first aid and CPR. If one of you can't satisfy all of these requirements, discuss the problem with your foreman and resolve the deficiencies.

Verify that your test equipment is suitable to the task. For example, your multimeter and test leads should have adequate voltage and safety category ratings for the environment in which you'll be working. If you are taking voltage readings at load side distribution transformers – such as one that supplies a 277V lighting panel – your meter needs to be rated for 600V, Category II. If you are working on a 480V service entrance panel, your meter needs to be rated for 600V, Category III.

Take special care with special-purpose equipment such as motor rotation testers, ensuring you match them to only the voltages they are rated.

Check meter settings and lead configurations before connecting to a circuit, whether you think the circuit is energized or not. In a DMM, for example, the typical 2A



fuse will not protect you or the meter if you inadvertently measure current between Phase C and ground on an 800A breaker. Ensure the test leads are in the right jacks.

Have your partner verify the meter is set up correctly. Many electricians fail to do this, out of misplaced sense of pride. It's better for you or your partner to spot the error than for one of you to walk into a dangerous situation you could have prevented.

Check the physical condition of your test leads, including the insulating boots. Test leads are inexpensive to replace – if in doubt, throw them out.

Pay attention to your environment. Before measuring, look, listen, smell and feel. Look for proper safeguards (rubber mats, insulated gloves, metal covers securely in place, etc.), look for potential hazards (puddles, corrosion, exposed circuits), listen for unusual sounds that may indicate arcing or burning and pay attention to unusual odours that may indicate recent arcing or burning.

Ask yourself if you are in the most protected position from which to take an action. For example, never stand in front of a disconnect to operate it. Those with pull down handles have those handles on the right side. Stand to the right of the disconnect and pull down with your left hand. If you need to measure the voltage in a panel, look for a breaker with the lowest current rating and measure there. If you are using an alligator clip, look for a bare conductor rather than a screw head.

If you are measuring to ground, make the ground connection first. When you are preparing to make a measurement, taking a measurement, and closing up after taking a measurement, remember that job quality, housekeeping and safety take priority over speed. If your partner or another party is in a rush, that is not your problem. You can work safe and you can work fast but you can't always do both. If you get too much pressure from another person to compromise on this, stop work and contact your foreman.

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FLAME RESISTANT FABRIC

GlenGuard FR, a flame resistant fabric, has been introduced by Glen Raven Technical Fabrics, LLC, a division of Glen Raven, Inc.

The new six-ounce fabric, designed to offer protection, comfort and value, has been given a NFPA70E Hazard Risk Category Rating of Class 2, making it one of the lightest fabrics offering this exceptional protection for electrical arc hazards. Cotton requires 7.4 ounces and the market leading aramid 8.5 ounces to get a Class 2 rating.

The six-ounce fabric has also been NFPA2112 certified. Tests for this certification include mannequin flash fire, vertical flame test before and after 100 washings, thermal protection, heat and thermal shrinkage. Tests are currently underway on the 5¹/₂-ounce and 4¹/₂-ounce versions.

In addition, the six-ounce fabric has been UL certified and meets Canadian Standards CGSB 155.20 for industrial flash fire pro-

tection. The fabric is also in compliance with the Canadian Wildland Firefighting Standard CGSB 155.22.

The new fabric is a proprietary blend of fibres, including Kermel aramid. The fibres are also engineered for greater comfort with excellent moisture management that helps keep the wearer cooler and drier.

In addition to looking better longer, the fabric has superior abrasion resistance for long life, making it a solid value-in-use offering.

The fabric will be available in navy, royal blue, tan, red, orange and yellow. Garments of GlenGuard FR will be handled through the normal channels of distribution - garment manufacturers and commercial laundries.

For additional information contact Gary Zumstein by telephone at 828-350-1595 or by e-mail at gzumstein@glenraven.com.



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New Products

THERMAL LABEL PRINTER

Thomas & Betts recently announced the availability of the EZL-100 Thermal Label Printer.

It uses AA batteries or an AC adapter and is designed for electricians and the way they work. It includes all the features to make wire marking fast and simple, such as the one-touch hotkeys that create labels instantly for wire wrapping, terminal blocks, device covers, patch panels, and labels in a series. It also prints symbols for commonly used electrical and datacom applications including ohm, ground, phone, data and fax.

The EZL-100 Thermal Label Printer is easy to use and prints quality labels that stick, last and will not smear. It's flexible, printing in either vertical or horizontal orientation

in five font sizes and various label types, including flexible nylon material, permanent polyester material and various sizes of heavy duty tape.

Further information is available by e-mailing mrkt_canada@tnb.comorvisiting the website www.tnb-canada.com.

ENCLOSURE HEATERS

CCI Thermal is pleased to introduce the Caloritech PH Enclosure Heater, a fanforced air heater designed to control the environment within enclosures by maintaining a stable temperature. Effects of low temperature such as corrosion, freezing or condensation will adversely affect the components inside control panels. The PH



Heater provides an optimal performance environment for the critical components contained within the control panel.

CCI Thermal has designed and developed this heater with many features, including optional DIN rail mounts, high temperature safety protection, CSA C/US approved, fan AUTO/ON switch to prolong motor life, externally adjustable thermostat (-18°C to 38°C or 0°F to 100°F), pilot light for HEAT ON indication, terminal strip for quick installation, aluminum alloy outer casing, and screw fasteners to provide easy access to components.

For additional information, visit the website www.ccithermal.com *or call 1-800-410-3131.*



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