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ASSOCIATION OF ONTARIO

Volume 48 • Number 2 • Spring 2010



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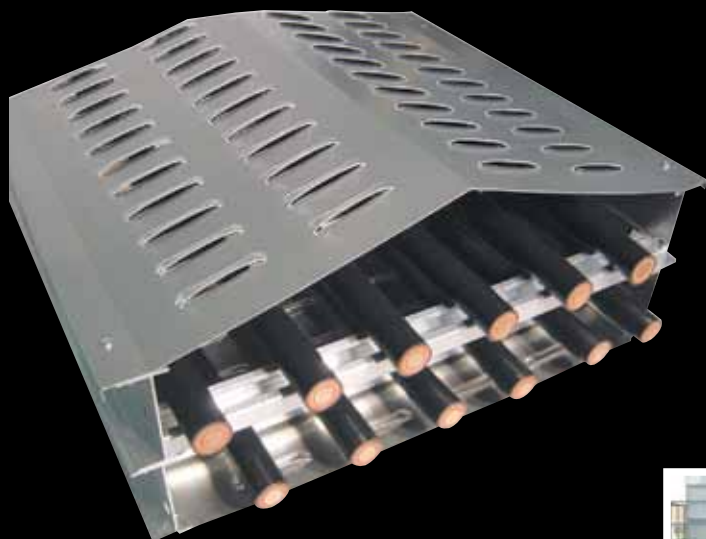
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On The Cover: IBEW, Local Union 586 members perform installation for Industrial Electric at the Amprior solar project.

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John Raeppe

The President's Remarks

This is the training and occupational health and safety issue of the *Ontario Electrical Contractor*. As ECAO President, I know that the greatest single attribute of ECAO contractors is their exemplary safety performance. Whether it's

worker safety through the Ministry of Labour or public electrical safety through ECRA, we are at the forefront.

The electrical rate group 704 is the best performing of all WSIB construction categories and ECAO members experience significantly fewer lost time injuries than others in our rate group. This doesn't mean that we can rest on our laurels. Safety will likely be the most active part of the Association agenda over the next few years.

The tragedies of Christmas Eve 2009 have focused attention on worker safety like never before. The Ontario government has commissioned an Expert Advisory Panel under the chairmanship of Tony Dean to conduct a comprehensive review of the province's occupational health and safety prevention and enforcement system. An important element of their research is the impact of the underground economy on health and safety practices. ECAO has long held the view that the underground economy and loopholes such as the independent operator exemptions contribute directly to tragedies like the ones that gave rise to this investigation. The Expert Panel's report is due in the fall of 2010.

Another development you should be tracking is the reorganization of the health and safety organizations. The safety associations we deal with, CSAO

and EUSA, along with the Transportation Safety Association, have been merged into a single organization called the Infrastructure Health & Safety Association (IHSA). The good news is that within the IHSA, electrical and mechanical have their own divisions. This will enable us to ask for and get better and more focused safety support and training relevant to our needs. ECAO welcomes both of these developments because we believe they will contribute to a safer and more professional electrical industry.

Safety never stands still. Rick Mei's article, *Moving Forward*, takes us from safety basics we must practice daily through to emerging public policy issues you should be aware of and be opinionated about. Terry Becker expounds on the importance of safety audits, both internal and external, to ensure that your safety program is delivering the proper results. With "safety accreditation" of contractors by WSIB just around the corner his message is very timely.

The training aspect of this issue focuses on two developments...the College of Trades and Solar Photovoltaic Training. Scott Macivor brings us up to date on the implementation of the College of Trades and provides a comprehensive question and answer piece to demystify this new organization which will control all apprenticeship training in Ontario. Alex Lolua of the IBEW chronicles the work of ECAO and IBEW to launch their solar training and certification system to ensure that this new market is served by licensed electrical contractors employing certified electricians.

I hope you find that this issue is informative and useful in advancing your safety and training objectives. I look forward, as always, to your feedback.

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An Electrical Safety Audit

The Key To Electrical Safety Program Performance

By Terry Becker, P. Eng.

Measuring performance of implemented protective and preventative control measures is an important aspect of electrical safety. Possibly not well understood by the electrical community that must implement the Electrical Safety Program, or a neglected process in the Electrical Safety Program, internal and external audits are a recognized tool in Occupational Health & Safety management systems in demonstrating due diligence to OH&S Regulations. It is imperative that you are able to measure the performance of your implemented control measures to electrical hazards management to ensure they are performing as intended and that you can demonstrate due diligence with written documentation.

If you have not implemented a formal Electrical Safety Program, an electrical safety audit is an effective tool to establish what your status quo, baseline electrical safety policies and practices are and identify where gaps may exist to industry accepted standards, such as CSA Z462 Workplace Electrical Safety.

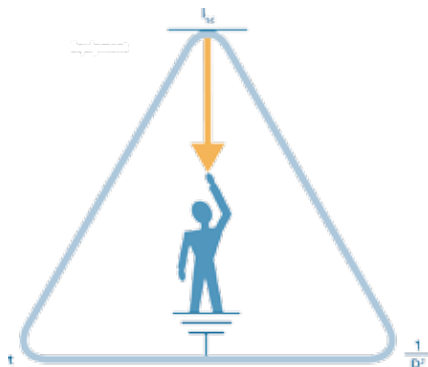


Figure 1. Arc Flash Triangle

An electrical safety audit can consist of a simple documentation audit, or a more detailed electrical safety audit where you utilize several different methods to ensure that your preventative and protective control measures are working effectively and as intended. The three methods used to validate are: Observation/Inspection (observation of your workers, and inspection of your electrical distribution systems); Interview (with management, supervisors, electrical workers and non-electrical workers); and Documentation Review (hazard task analysis process, lockout procedure, electrical safe work procedures, incident investigation, emergency response, etc.)

Effective due diligence against Occupational Health & Safety Codes, Acts and Regulations in Canada is the development and implementation of a management system that allows for identification, quantification of hazard risk and implementation of appropriate preventative and protective control measures to mitigate or reduce risk to workers. For electrical hazards, the Arc Flash Triangle graphic illustrates key variables in an arc flash and shock from the electrical energy source to ground (see Figure 1). This management system is called an Electrical Safety Program. The Electrical Safety Program should outline what preventative and protective control measures are implemented and they should be prioritized in the following order as outlined in CSA Z1000 occupational health and safety management:

1. Eliminate the hazard, de-energize is the first choice;
2. Substitute with other materials, processes or equipment;

3. Reduce the risk by design (e.g., engineering solutions, equipment solutions, "Safety by Design");
4. Use safer work systems that increase awareness of potential hazards (e.g., apply safeguards like signage, barriers, etc.);
5. Implement administrative controls (e.g., training and procedures); and
6. Use Electrical Specific Personal Protective Equipment (PPE), as a last line of defense, and ensure it is appropriately used and maintained.

One element of an Electrical Safety Program is the need for internal and external auditing to validate and measure performance of the implementation of the Electrical Safety Program, identify gaps, make recommendations on how to improve the Electrical Safety Program's performance and prioritize actions to implement the required changes identified in the audit. An example framework of a typical Electrical Safety Program is listed below where the category of audit is identified:

Example Electrical Safety Program Framework Categories:

- a. Company Safety Policy
- b. Management Leadership & Commitment
- c. Electrical Safety Program Administration
- d. Regulatory Requirements & Standards
- e. Electrical Hazard Identification, Assessment & Risk Control
- f. Safe Installations

- g. Electrical Safety PPE Program
- h. Electrical Safety Training & Competence
- i. Electrical Safe Work Practices
- j. Electrical Engineering "Safety by Design"
- k. Electrical Equipment "Safety by Design"
- l. Electrical Equipment Maintenance
- m. Electrical Incident Investigation & Management
- n. Emergency Response
- o. Audit & Corrective Action Plans
- p. Contractor Management
- q. Management of Change
- r. Management of Documentation
- s. Appendix

In implementing an Electrical Safety Program, the electrical hazards of shock and arc flash must be identified and prioritized processes and systems as identified above put into place to mitigate or reduce the risk level of electrical hazards for workers. Understanding if the processes and systems deployed are working properly and effectively and ensuring workers have competency in them are critical to the success of the Electrical Safety Program and exhibiting appropriate due diligence.

The audit component of the Electrical Safety Program is identified uniquely in the CSA Z1000 occupational health and safety management standard, plan, do, check, act management system approach, as depicted in the graphic below in the context of the available six preventative and protective control measures for electrical hazards.

By completing an electrical safety audit before you develop an Electrical Safety Program



Figure 2. Plan, Do, Check, Act.

you will establish a baseline of your existing policies and practices, and you will ensure that you prioritize appropriately where your effort should be concentrated to demonstrate due diligence.

Example: Case Study

In the case of a large oil and gas company, an Electrical Safety Standard was created and deployed in 2000, but had not been internally or externally audited until 2007 when a formal external electrical safety audit project was initiated. The company realized that the lack of auditing was a gap in the

implementation of their Electrical Safety Standard, and hired an external Electrical Safety Services consultant to assist them in completing this task for all eight of their major oil and gas complexes.

A plan and schedule was put into place to complete the detailed Electrical Safety Audits throughout the calendar year 2008. The consultant had an established electrical safety audit process that was structured and utilized the validation tools of Observation/ Inspection, Interviews and Documentation review consistent with Occupational Health

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Role Description Interviewed	Cumulative # Of Interviews
Supervisor	18
Electrical Worker	29
Operator	9
General (Instrumentation Technician, HSE Coordinator, Planner, Scheduler...)	24
Total Interviews Completed	80

Table 1. Total number of interviews by role description.

& Safety management system auditing processes. An Electrical Safety Audit software tool was used to compile the validation data collected, and score the results of the audit by management system (Electrical Safety Program) framework category. The resulting audit report provided a per cent score by management system framework category, and consistent application of the audit process across all eight complexes would provide the ability to benchmark performance of the Electrical Safety Standard across all eight of the complexes.

For each complex a pre-on-site audit documentation review was completed of




overall Occupational Health & Safety management system documentation for electrical hazard specific content, including any site specific Electrical Safe Work Procedures or Practices.

The complexes were scheduled for the on-site portion of the audit, and while on-site interview sheets were used to validate understanding of the Electrical Safety Standard by worker role: Manager/Supervisor, Electrical Workers, Operator, and General (Instrumentation Technician; Health, Safety & Environmental Coordinator; Planners; and Schedulers). Table 1 identifies what facilities were inspected for each complex and

Table 2 highlights the total number of interviews completed by role across all eight complexes.

Additional validation of performance was completed utilizing an Electrical Safety Checklist, reviewing and retrieving any on-site documentation, and completing electrical distribution system inspections with digital photographs taken for evidence of a good or bad practice. All Electrical Specific PPE, Tools and Equipment were also inspected at each complex for validation of inventory management, proper storage, check in and check out system, performance management, condition, care, maintenance, and use practices as well as valid testing (hot sticks, temporary protective grounds, and rubber insulating gloves).


After completion of the on-site portion of each audit, all data was reviewed to validate performance using question sets by management system category in a customized electrical safety audit tool software application. A per cent score was awarded to each question category and resulted in a per cent score for each management system category. Table 3 illustrates the overall results for each

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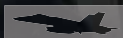
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Master Corporal **JOCELYN GERVAIS**



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« Veiller au fonctionnement optimal de nos systèmes d'armement, voilà ma responsabilité. Comme technicien en électronique, je procède au test, à l'entretien et à la réparation de l'équipement. Dans mon métier, la précision est une nécessité absolue. »

Caporal-chef **JOCELYN GERVAIS**



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ELECTRICAL SAFETY

Complex	Total Facilities Inspected
1	Main Plant, Compressor Station, Wellsite
2	Main Plant, Compressor Station, Wellsite
3	Main Plant, Compressor Station, 2 Wellsites
4	Main Plant, 2 Compressor Stations
5	Main Plant, Special Processing Facility, 2 Compressor Stations, 2 Wellsites
6	3 Main Plants, Pilot Facility, 3 Well Pads, Transfer Station
7	Main Plant, Pilot Plant, 2 Well Pads
8	Large Compressor Station

Table 2. Total number of facilities inspected by complex.

complex and using the colour coding of red (0-50 per cent score), yellow (51-80 per cent score) and green (81-100 per cent score) clearly depicts the overall performance by each complex of the Electrical Safety Standard.

Using the electrical safety audit tool software a Field Level Audit Report was generated automatically by complex and a separate Executive Level Electrical Safety Audit report created based on this, and issued for each

individual complex. Photograph files were also created and issued as evidence of findings for each report.

The Executive Level Electrical Safety Audit reports that were issued for each complex identified the audit process used, reported findings and a detailed list of recommendations of corrective actions. Using an external Electrical Safety Audit process, the large oil and gas company clearly identified significant gaps existing in their Safety Standard, allowing them to effectively prioritize financial and human resources to ensure that electrical hazards are managed effectively in their organization.

Terry Becker is CEO of ESPS Electrical Safety Program Solutions Inc.

Article from Electrical Line Magazine's Electrical Safety Measures supplement, July/August 2009, www.electricalline.com.

Major Upstream Oil & Gas Company
Electrical Safety - Operations and Maintenance Standard and
Regulatory Management Plan - Policy Implementation Procedure
Overall Audit Scoring Summary by Complex

Rev A
April 25, 2009

Management System Category		Audit Location								Total Element
		Complex 1	Complex 2	Complex 3	Complex 4	Complex 5	Complex 6	Complex 7	Complex 8	
A	Management Leadership	94	79	90	88	66	75	92	95	84.9
B	Hazard and Risk Assessment	65	50	61	62	59	64	56	55	59.0
C	Standards, Procedures and Work Instructions	75	63	69	64	72	67	71	65	68.3
D	Training, Education and Certification	82	75	78	71	56	67	62	53	68.0
E	Health and Safety Communications Systems	77	84	77	77	56	77	72	87	75.9
F	Incident Reporting and Investigations Systems	83	79	83	84	67	69	69	69	75.4
G	Contractor Management	These categories are not considered applicable to this audit and therefore are not scored.								0.0
H	Prime Contractor Selection and Management									0.0
I	Electrical Safety General and Administration	65	56	65	60	49	55	62	59	58.9
J	Electrical Safety Acts, Regulations and Standards Compliance	89	76	90	78	75	72	85	85	81.3
K	Electrical Safe Installations	85	76	86	75	79	75	82	84	80.3
L	Electrical Engineering Safety By Design	81	75	77	71	72	68	66	75	73.1
M	Electrical Equipment Safety By Design	93	83	80	73	66	74	64	79	76.5
N	Electrical Equipment Maintenance	92	73	88	86	72	66	66	77	77.5
O	Electrical Specific PPE	74	63	59	60	72	65	80	60	66.6
P	Electrical Safety and Technical Training	52	80	52	53	67	54	53	45	57.0
Q	Electrical Safe Work Procedures	56	50	57	56	50	56	55	49	53.6
Total Location Scores (%)		76	67	72	68	67	66	69	67	
OVERALL SCORE (%)										69.0

Notes

- 1) All individual category/location scores have been rounded up or down to the closest whole number; therefore the total scores may not exactly equate to the average of all individual element or location scores. The overall score is based on the average of all indicated location scores.
- 2) Color coding of boxes is based on the following percentage scores, 0 - 50%, red, 51-80%, yellow, and 81-100% green.

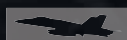
Table 3. Electrical Safety Audit Performance Results by Complex.



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"Working in a grey office, that wasn't for me. Here, in the Navy, I have been well trained and I work on state-of-the-art equipment. Believe me, the only thing grey about this job is the colour of the ship."

Ordinary Seaman **ZACK ARTE**



RECHERCHONS: TECHNICIENS EN ÉLECTRONIQUE

« La grisaille de la vie de bureau, c'était vraiment pas pour moi. Dans la Marine, j'ai été bien formé et je travaille avec l'équipement le plus avancé. Je peux vous assurer que la seule chose qui est grise dans mon métier, c'est la couleur du bateau. »

Matelot de 3^e classe **ZACK ARTE**

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MOVING FORWARD

by Rick Mei, Quality Connection



Securing the Health and Safety of all workers is and must remain the first priority of all of Ontario's workplaces, with no exceptions. Changes to Health and Safety legislation regarding the Occupational Health and Safety Act, sector specific regulation, best practice, training requirements and Workplace Safety & Insurance Board policies must be viewed as an opportunity to "move forward" in addressing the health and safety of all those that enter into a workplace. While new requirements, policies and procedures are implemented regarding the health and safety in our workplaces, it is vital that some "basic" workplace practices be followed diligently. For example, the following items should remain a constant part of one's safety practices:

- **Employee Indoctrination:**
all workers, including staff, drivers, shop, warehouse, and sub-trades (simple rule "follow the money" – any one you pay directly or indirectly may be considered your responsibility).
- **Health & Safety Policy Statement:**
review, sign, date, post at workplace(s) annually.
- **Health & Safety Program:**
review annually, should reflect intent of your Policy Statement.
- **Safety Meeting:**
follow pre-set schedule, to include all workers in all areas of operation.
- **Workplace Inspection:**
follow pre-set schedule, to include all workplace areas, equipment and tools.
- **Investigation(s):**
all occurrences from near misses, first aids, to environmental issues. Communicate decisive action.

- **Training:**
establish training requirements that meet or exceed legislated standards.
- **Health & Safety Committee:**
allow functioning committees to contribute to your overall health and safety objectives.
- **Return to Work Program:**
develop clear policies on rehabilitation, early return to work and work alternatives.

Health and safety has moved well beyond the areas listed above and now addresses many other workplace concerns. These include, but are not limited to, drug and alcohol abuse, disciplinary measures, environmental issues (heat, cold, asbestos, PCB's), human rights, violence in the workplace and, emergency resources and response. These and other health and safety practices such as project, workplace and job task analysis promote a safer workplace. Developing policies and procedures in these areas will assist in meeting your health and safety responsibilities.

Communicating your health and safety policies and procedures to your supervisors, foremen, sub-foremen, field workers, office staff, contract workers and shop employees is fundamental in maintaining an active and effective safety program. By using all the tools available, (indoctrinations, safety meetings, postings, newsletters, one on one and email) all personnel should have a clear understanding of their rights and responsibilities in establishing a safe work environment. Accurate documentation along with efficient record keeping will also enhance your health and safety standard.

As of January 1, 1998, the Workplace Safety & Insurance Board broadened its role to "promote health and safety in workplaces

and to prevent and reduce the occurrence of workplace injuries and occupational diseases." This combined with its strategic plan to facilitate the healthiest and safest workplaces (zero fatalities, injuries and illnesses) for all Ontarians, also known as The Road to Zero, has resulted in legislated changes, such as: live work, arc flash, confined space entry and policy changes. Policy changes include the development of a new service delivery model, implementing a fatal claim premium adjustment and a revised Workplace Safety and Insurance Act. Recently the Electrical Contractors Association of Ontario mailed to its member firms a Contractor's Guide to Workplace Safety and Insurance 2nd edition. Familiarity with this publication would be beneficial.

Taking into account the WSIB's preventative role (The Road to Zero), plus an \$11.5-billion unfunded liability (2008) and the fact that all revenues are generated from Employers, the Board (WSIB) has opened up many of its current policies, programs and practices for analyses, recommendations and considerations to its stakeholders, including the introduction of new criteria, such as "Accreditation." Other key areas being addressed are WSIB Rate Groups, Experience Rating Review, Second Injury & Enhancement Fund, Certificate of Clearance issuance, Joint Health and Safety Committee Certification (re-certification) and the consolidation of the Safety Associations.

The WSIB through the release of discussion papers, commissioning of third-party consultation, stakeholder meetings, submissions from various associations, councils, coalitions and unions, offer a wide-reaching consultation process. Participation in the process is not an option, it is an absolute must.

Many of the current proposed changes and recommendations will impact the construction industry. While some changes and recommendations may be viewed as positive, others raise immediate concerns. For example, employers may be subject to an imposed audit that may lead into fines and charges, audit failure could effect your ability to pre-qualify with current and future clients, CEO's (equivalents) to sign declaration of compliance (OH&SA/WSIA) increasing legal responsibility, non-compliance may result in WSIB rebate cancellation, experience ratings programs eliminated, employer advances limited to attending medical appointments, SIEF (Second Injury Enhancement Fund) policy amended to eliminate cost relief where there is a pre-existing condition but no pre-existing disability, future increased WSIB rates and new cost additions that may be added to employer accounts. Due to the scope of the WSIB's current review, not all areas or related concerns are included above.

Addressing the issues at hand in an informed and timely manner that represents an overall view of those who are affected by change is at times challenging. It is realized that it is also a challenge for those directly affected to keep up with all the issues at hand. Associations, councils, coalitions, committees, sub-committees, etc. are in place to address areas of concern. Furthermore, publications and articles such as this may aid in bringing a sense of awareness as to what's taking place and how it may affect you and your business. Your views, comments and suggestions are a key element in addressing the challenges of Health and Safety and the sweeping changes of the WSIB. To have your say, please email rmei@sympatico.ca. Your participation in this process results in establishing a clear and effective response. As the title indicates, Ontario workplaces will be "Moving Forward," don't be left behind.

For further information visit the WSIB main site: www.wsib.on.ca.

Rick Mei is a representative of Quality Connection, the Joint Electrical Promotion Plan's occupational health and safety program.



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JEPP Holds Its 1st Annual CFAE Instructors Conference



The Joint Electrical Promotion Plan's Certified Fire Alarm Electrician (CFAE) Steering Committee presented its 1st Annual CFAE Instructors Conference, October 16-18, 2009, at the Sheraton Toronto Airport Hotel. Over 25 instructors participated in the three-day conference to exchange ideas and best practices and attend carefully selected sessions related to the field of fire alarm and education.

Friday evening began with the Opening Reception which gave all delegates the chance to catch up with friends, colleagues and to simply relax before the busy day of business sessions ahead. Executive Vice-President of ECAO, Eryl Roberts welcomed the delegates by saying, "When I look around the room I see some of the originals...led by my colleague (and good friend) Gary Lehman who started from scratch and through your commitment to training excellence have developed a pool of about 2,000 certified fire alarm electricians. Not only is Ontario a safer place because of your efforts, you have given the electrical trade even more credibility in the eyes of the responsible building owners who now specify CFAE electricians for their buildings." He ended by saying, "My only regret I have is that this gathering of instructors and guests didn't happen earlier. But...it is going to be the beginning of a tradition."

During the Opening Reception exhibitors, namely Orderline, GE Security Canada, Vipond, Siemens, Mircom, Systems Sensor Canada and Simplex Grinnell, were given a one-on-one opportunity to discuss their products and/or programs with each attendee. Exhibitors included alarm management software companies, as well as organizations promoting specific fire alarm equipment and reduction programs. The interaction proved to be invaluable.

Enlisting knowledgeable, powerful and well respected speakers for this conference was considered very important from the outset, and we were delighted that each speaker did such a fine job in presenting.

Saturday's presentations began with a demonstration/presentation by James Noble from Siemens Building Technologies on Mass Notification equipment and services that can help expand awareness and warning through the use of telecommunication devices. A review of the CFAE policy and procedures manual which covered the many elements of the CFAE program was presented by Gary Lehman, G. W. Lehman & Associates. Fiber Optics for Fire Alarm 101 was





presented by Mike Hugh, Simplex Grinnell, where he explained the importance of fibre optics and what makes it stand out. Steve Smith, Electrical Safety Authority talked about the difference between new installations and maintenance of existing equipment and touched on the building code, the fire code, licensing requirements and permits. He finished off his presentation by expressing the many challenges and safety awareness of the use of multi-meters which is very close to his heart and which he spoke passionately about, leaving attendees completely speechless. David Sylvester, Morrison Hershfield, ended Saturday's sessions with the top 10 things you should know about fire alarm installation commissioning, which is forever changing. David spoke about the importance of standard reports being filled out properly, inspections of fire alarm devices and systems, smoke duct detectors,

and finally intelligibility, audibility and perception. Each speaker was impressive and had the specific expertise required, giving informed, insightful, thought-provoking presentations, as well as being more than able to contribute meaningfully to the debates and discussions in question.

A very enjoyable evening was had by all who attended the final dinner where the Sheraton Toronto Airport Hotel displayed their culinary skills. No formal list of toasts were prepared but an entertaining scheme of amusement was about to unfold as Joe De Ciantis introduced Mark Crocker, a talented ventriloquist. It did not take long for Mark to have our group roaring with laughter as he introduced his characters: Chester, who had a thing for the ladies, and Homer, who was a retiree fire alarm electrician, that went way back with Fred Black, Steering Committee Chair. Mark

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called on member Dave Cribb to do a little improv where Dave experienced first-hand what it felt like to be a puppet or to just be spoken for.

Sunday morning came, and every attendee was up early to welcome guest speaker Bruce Patterson from the office of the Ontario Fire Marshal who focused on providing details on the complete, thorough and accurate investigation into the origin, cause and responsibility of fire loss incidents. He expressed the important role that is played through fire protection and prevention education and training and how far it has come in limiting unnecessary destruction and loss of life. It was an honour to have Bruce speaking to our group, as he is an expert in his field and handled the many questions and concerns our delegates had.

Thought-provoking plenary sessions lead by speaker Gary Lehman ended the conference. Gary focused on the instructors' opinions on potential future topics such as education and marketing of the CFAE program.

The topics covered throughout the conference sparked many conversations among the attendees. This kind of interaction is what makes the CFAE conference such an important tool for the instructors and their staff. Overall, the participants deemed the conference a huge success. Conference evaluation forms completed by the attendees were extremely positive and included praise, such as: "The Conference was extremely educational and the content and speakers were very informative..." "I will be able to make my program better because of the info gained from other instructors with regards to delivery methods and classroom methods." "Excellent quality on speakers and topics covered." "I would like to thank everyone involved for their time, commitment and knowledge. Furthermore, thank you for inviting me to this function." "Keep it coming."

Last but not least, the CFAE Steering Committee and the Joint Electrical Promotion Plan would like to acknowledge this year's conference sponsors, namely: ECAO, IBEW CCO, Adcoa Holding Inc., Orderline, Northern Display, Mircom Technologies and G.W. Lehman & Associates. Thank you for your financial contributions and support.

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Employee *and* Family Assistance Programs

From time to time everyone faces difficult or stressful events in their lives. Sometimes personal problems can become large enough that they begin to interfere with an employee's effectiveness, happiness or safety, both at work and at home.

Did you know?

At any given time, approximately 25 per cent of employees in a business organization are suffering from one of the following:

- substance abuse,
- depression,
- stress,
- anxiety; or
- relationship problems

Employee and Family Assistance Programs (EFAP) provide confidential, professional assistance for a broad range of personal and family problems. While the program can be used for crisis intervention, the ideal time to use the program is before problems escalate or become unmanageable.

The Employee and Family Assistance Program is a pro-active option for helping your employees manage their personal health and happiness.

Research indicates that implementing an EFAP can result in significant cost-savings to the employer due to:

- reduced absenteeism
- reduced weekly indemnity, long-term disability and drug claims
- increased safety and fewer on-the-job accidents
- increased productivity; and
- increased employee morale.

What Services are Available?

An EFAP offers your employees and their eligible dependants short-term counselling, either in person, by phone or online.

What Does the Program Offer?

In addition to counselling, an EFAP covers your employees for an assessment and referral for a full spectrum of personal difficulties including, but not limited to:

- work-related stress
- relationship and family problems
- separation/divorce/custody
- financial and legal difficulties

- alcohol and drug dependency
- gambling and other addictions
- eating disorders
- difficulties with children
- psychological disorders
- anger management
- sexual harassment and abuse
- bereavement
- aging parents
- child/elder care resources
- retirement planning

How Does an EFAP Work?

An employee in distress calls the toll-free line. They are assisted by a counsellor with setting up an appointment at a time and office location that is convenient to them. The counsellor will work with the employee to address their specific concerns and help them develop efficient and practical solutions. If longer term counselling, hospital treatment, or specialized services are required, the counsellor will arrange an appropriate referral and followup.

Who Provides Counselling?

All EFAP health professionals are registered psychologists or registered counsellors chosen specifically for their extensive experience in dealing with a variety of psychological and health issues.

They provide a non-judgmental and unbiased source of expertise and support and will listen carefully to the employees' concerns and will help guide them toward positive outcomes.

How can I ensure my Employees that Counselling is Confidential?

You will not be given any information about who used the service or the type of service requested. EFAP counsellors are required by law to maintain the strictest confidentiality. No one who inquires about or receives services under this plan will be identified to anyone without the employees' written approval, including the employer.

Who Do I Contact to Implement an EFAP?

To receive a quote and detailed information on the EFAP, contact Skipwith & Associates, 1-800-661-9023.

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NFPA 70B Fault Severity Guidelines for Electrical Thermography

Infrared thermography is gaining widespread use among electrical contractors and personnel now that prices have dropped below \$3,000 for an entry-level camera. Also increasing, however, is the misunderstanding about the requirements for conducting a thermographic inspection, performing a proper analysis, and making appropriate recommendations. NFPA 70B “Recommended Practice for Electrical Equipment Maintenance”, actually spells out the recommendations for an infrared inspection in Section 21-171. Thermographic inspections, particularly those being carried out for insurance purposes, should be performed in accordance with these NFPA guidelines.

The following is a summary of the most important points in section 21-17:

1. Infrared inspections should be performed by qualified and trained personnel who have an understanding of infrared technology, electrical equipment maintenance, and the safety issues involved. (21.17.1.1)
2. Infrared thermography of energized electrical systems should be performed at least once a year and at a higher frequency where warranted (e.g., adverse conditions, operation, load, or loss experience) (Section 21-17.5)
3. All critical electrical equipment should be included in the inspection (21.17.5.1)
4. The inspection should be performed during periods of maximum possible

loading but not less than 40 per cent of rated load of the electrical equipment being inspected. The circuit-loading characteristics should be documented. (21-17.5.2)

5. Equipment enclosures should be opened for a direct view where possible. (21-17.5.3)
6. Thermal anomalies detected by thermography should be classified in accordance with the following NETA2 (Section 9 and Table 10.18) Maintenance Specifications:
 - a. Temperature differences of 1 to 3 degrees C indicate possible deficiency and warrant investigation.
 - b. Temperature differences of 4 to 15 degrees C indicate deficiency; repairs should be made as time permits.
 - c. Temperature differences of 16 degrees C and above indicate major deficiency; repairs should be made immediately.

The temperature differences denote differences from the normal referenced temperature as determined by a qualified technician. (Section 21-17.5.6)

Many thermographers are critical of the very low NETA temperature rise benchmarks given in section 21-17.5.6 and it has become an industry ‘norm’ to alter the above criteria by a factor of up to 5 (i.e. a 10 degree C rise is a ‘possible deficiency’ and an 80 degree C rise is a ‘major deficiency.’ This indiscriminate use of a multiplier has no scientific basis

other than the fact that thermography often detects electrical thermal anomalies months or even years before failure, and owners or managers, with their limited maintenance budgets, believe they have lots of time to deal with these relatively ‘minor’ electrical connections. They don’t want to hear about these ‘minor’ problems so thermographers adjust the criteria to reduce the maintenance workload.

As a consultant I have found a number of problems that have been well in excess of 16 degrees C and the component has not failed or even worsened for a long period of time. When this occurs it positively reinforces disbelief in these NETA guidelines and NFPA Section 21 in general. In one case I found a +60 deg C phase to phase rise on the jaws of a disconnect switch that I identified as a serious problem numerous times in three years of inspections and yet it never failed, nor got any worse. The company ignored my recommendation to ‘repair immediately’ since to replace it required a plant outage. On my last inspection the temperature rise had increased, and based upon this change I categorized the problem as a “safety issue,” i.e., that the disconnect door should no longer be opened for IR inspection while energized. Classifying a problem in this fashion set off an action requirement from the safety manager. I had one angry maintenance manager, but the electrician who eventually replaced it said that had someone tried to throw the disconnect, the jaws could have fallen apart resulting in an arc flash explosion,

fire and possible injury. He gave me the disconnect and it now sits in our classroom lab, the jaws carbonized, pitted and warped as a reminder that electrical fire and explosion is not usually the result of a component 'wearing out' but rather the result of a benign problem stressed by an unusual event, a fault current, or a start/stop operation. In retrospect I should have classified the problem as a safety issue during prior inspections because their reasoning for postponing repair (a plant outage was required) also created the potential for tremendous arc flash energy should a fault have occurred at that disconnect.

Many of the critical pieces of equipment that NFPA suggests for thermographic inspection are part of the main plant or building electrical switchgear and distribution system. A thermographer may detect a small (e.g., 5 degree C) phase to phase temperature rise on a switchgear bus bar connection. This indicates a defective connection. Irrespective of whether it is a pure resistive or arcing fault, switchgear bus is typically very tolerant of this type of

fault. The mass of the bar and the fact that the bus is usually over-designed for normal operational loads means this problem could last for years, perhaps even for the entire life of the switchgear. But suppose an unusual, upset condition occurs like an excavator cutting through a high voltage underground cable fed by the substation. If this occurs, thousands of amps will instantaneously flow through the bus bar and the only question is which will occur first: the protective device tripping or the bus bar fault exploding. How many times have you heard of an unusual event like this happening and the switch gear explodes? What will the insurance company think when they find out that there was a known fault on the main bus and the company decided to ignore NFPA recommended criteria?

There are many sound reasons why the NFPA/NETA criteria is so low. These are:

1. Load. If the load increases above the load at the time of test, the heat generated goes up as the square of the increase. If the load doubles the heat at the fault quadruples. In the event of fault current,

thermal energy created at the faulty connection rise to kiloWatt level.

2. Thermal gradient. Infrared only measures surface temperature. Internal faults on oil filled components, bushings, large mass connectors, and components with heavy rubber boots will have a much higher fault temperature inside.
3. Root Cause. Is the root cause of a connector problem a pure resistive or micro-arcing fault? (If it's micro-arcing think about what the actual inside temperature is!)
4. Free air-convection. We must open up cabinets for inspection. What will happen to the fault temperature once the cabinet is closed up again?
5. Forced Convection. An outdoor component may be showing an abnormally low surface temperature because the wind is blowing over it at the time of inspection.
6. Emissivity. Thermographers often measure too low due to estimating the

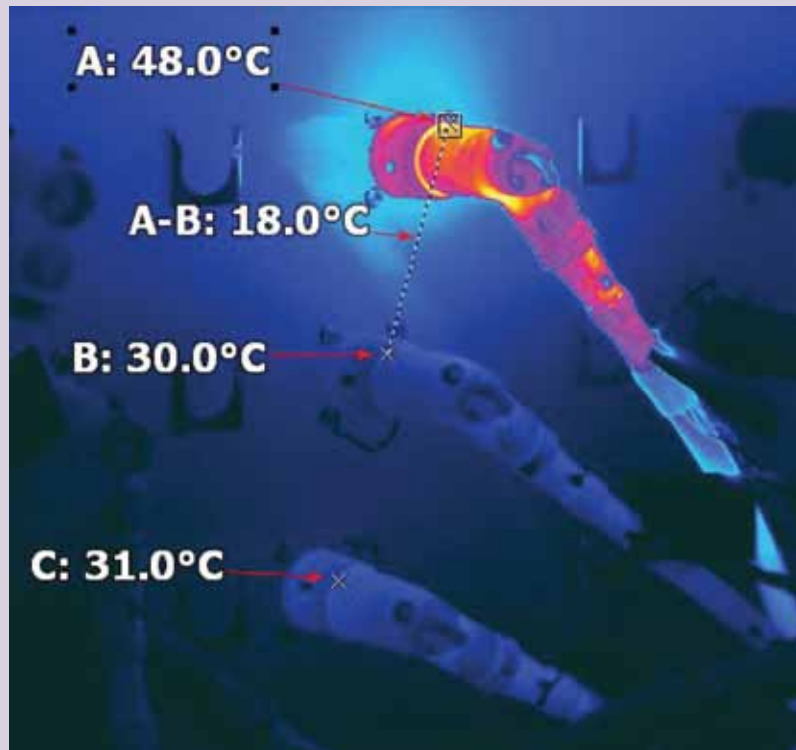
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emissivity of the shiny aluminium, copper, or plated surfaces to be too high.

7. Measurement resolution. Infrared cameras, particularly less expensive models, may be able to detect a hot spot but will measure too low because measurement resolution is often much worse (typically 3x) than detection resolution.
8. Component function. Some components such as insulators, arrestors, and wire insulation are not intended to pass current. Any temperature rise on these components is indicative of imminent failure.

These considerations, particularly when taken cumulatively, add up to the fact that a small measured phase to phase temperature rise could be indicative of a very serious latent problem. And, until you can definitively eliminate all of them by further investigation and/or testing, then I would suggest that the NFPA/NETA guidelines are the only ones that should be followed.

In summary, while a nice benefit of performing thermography is for maintenance planning and cost reduction, we cannot forget the primary reason for conducting an inspection is to reduce the risk of fire and explosion, consequent injury, interruption to operations, and loss of capital. It is why the insurance companies have supported the use of infrared inspection of critical electrical equipment for more than 30 years. After all, what do the initials NFPA stand for?

Gregory B. McIntosh is the managing director of Snell Infrared Canada, a member of The Snell Group. He has spent the last 33 years applying and teaching infrared thermography in a wide variety of applications in industry, building science, natural science and public safety. You can contact Greg by email at snellcanada@thesnellgroup.com or by visiting www.thesnellgroup.com.

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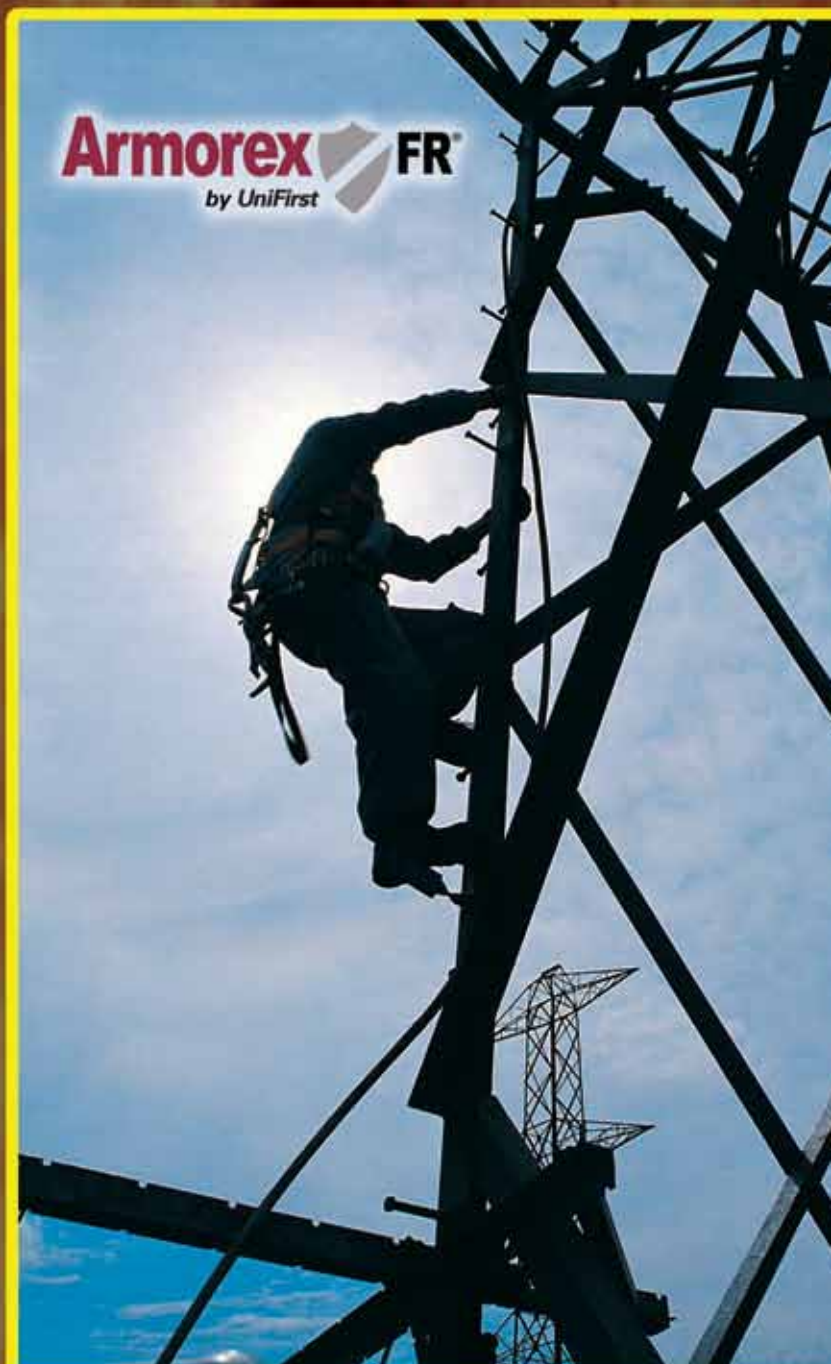
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The Ontario College of Trades Becomes A Reality

by Scott Macivor, SCOMAC Facilitators

Ontario will have a College of Trades! The Ontario College of Trades and Apprenticeship Act was passed on October 28, 2009. There will soon be an industry-directed College of Trades in Ontario to which all tradespersons, apprentices and persons who employ tradespersons or apprentices shall be required to become members. This likely means you.

For your information The College of Trades and Apprenticeship Act can be reviewed at: <http://www.canlii.org/en/on/laws/stat/so-2009-c-22/latest/so-2009-c-22.html> Specific Section references are included with parts of this article.

Frequently Asked Questions (FAQs)

Answers are based on interpretation of current legislation; Regulations and other adjustments yet to be determined by the College Board of Governors.

1. What does this mean for employers of Tradespersons?

All employers of tradespersons shall be required to become members of and pay yet-to-be established dues to the College of Trades. There will be a publicly available registry of all College of Trades members showing their status.

Employers shall not engage individuals to perform work in a compulsory trade unless they hold a certificate of qualification or are registered apprentices and are

current members of the College of Trades.

2. How will trades training be affected?

Once the College of Trades is operational both the Trades Qualifications and Apprenticeship Act (the TQAA) and the Apprenticeship and Certification Act will be repealed.

Apprenticeship training will be delivered as before but training policies, content, training and curriculum standards, etc. will be determined by industry run Trade Boards working under the appropriate industry run Divisional Board, not the government.

Training Delivery Agents (TDAs) and administrative procedures including the registration of training agreements will continue to be approved and delivered by the Ministry.

3. What about enforcement?

The industry driven College shall have the responsibility to address compliance issues under its jurisdiction. The Act provides for fines up to \$10,000 to be levied if someone misrepresents themselves as having a CofQ, provides false information on an application, cheats on an exam, obstructs site

inspectors, misrepresents a Training Agreement, or assists someone else to do any of these things.

The Registrar (CEO of the College) can appoint inspectors or investigators to explore circumstances around any matters under the jurisdiction of the College. These persons shall have legal right of entry and may not be obstructed. (See Sections 53, 54)

Regarding the delivery of a Training Agreement, the Act grants powers to the Ministry to appoint inspectors to conduct on-site inspections and collect information. Failure to comply or obstruction can also result in fines up to \$10,000. (Section 70)

4. How will apprentice/ journey person training ratios be determined?

The criteria and process for establishing training ratios for each designated trade shall be determined by Regulations to be set by the College Board of Governors. Once established, training ratios are to be reviewed by a Review Panel at least every four years. Members of the Review Panel for a trade shall be selected from the Roster of Adjudicators, a pool of qualified industry persons originally selected by the Appointments Council. (Section 60)

5. What happens to requests for compulsory trade certification?

In much the same manner as determining training ratios, the Board of Governors shall make Regulations determining the criteria and process for a Review Panel to apply when considering requests to become a compulsory certified trade. Existing compulsory certified trades shall remain so under the new act. (Section 61)

6. I understand there will be a public complaints mechanism. What does that mean?

Public accountability shall be a responsibility of the College. The new Act stipulates mandate, operating procedures, penalties and appeals for establishing: 1. Public Complaints Committee, 2. Discipline Committee, and, 3. Fitness to Practice Committee. (Sections 44 to 48)

The Act also grants broad and sweeping powers to the College Registrar to appoint inspectors and investigators to conduct on-site examinations and collect evidence related to any matters under investigation. Fines up to \$10,000 can be imposed for obstruction or falsifying or destroying evidence.

7. What can these Committees do to a member of the College?

These Committees will be able to recommend discipline fines up to \$2,000, suspend for a specified period or revoke the members' CofQs and/or membership in the College, require specific training upgrading or take other corrective measures they may deem appropriate.

8. Will trades be better served for having a College?

The new College of Trades provides the opportunity for industry to become directly involved in virtually every aspect of the training delivery process. The College membership registry will provide

a current inventory of the numbers in each trade enabling improved labour market planning including the matching of training to job opportunities. Other improvements should include: industry driven enforcement, improved awareness and public perceptions of the trades, better tracking of apprentices leading to more training completions, improved training standards leading to better qualifications and improved

safety and the improved ability to provide training upgrading in response to changing technologies.

9. Where will funding come from?

Funding for the College of Trades is still to be determined but will likely include, among other things; membership fees, Certificate registration and renewal fees and fines levied by the College. The

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amounts to be paid for fees and dues, etc., are to be determined by the Board of Governors.

10. How does the IBEW feel about the College?

John Pender, Executive Secretary of IBEW Construction Council of Ontario says: "The College of Trades has the potential to be the most important development in Ontario's training system in a generation. As a compulsory trade, we have unique requirements from most of the other participants in the College.

In order to ensure that the College meets the needs of our industry, electrical contractors and the IBEW must have our brightest and most dedicated people involved in its development and operation. Over the next two years, we must give this matter our utmost attention."

11. Is the government still committed to apprenticeship training?

Yes they are. The legislation creating the College of Trades is in direct response to industry feedback and our stated desire to have a greater direct role in training design and delivery. As further evidence the provincial government was recently required to amend the Labour Mobility Act to comply with updates to the federal/provincial Agreement on Internal Trade. The Agreement had provided for a broader interpretation of qualification criteria for trade mobility but the Ontario Government passed an amendment to its Labour Mobility Act limiting trade equivalencies to the industry supported Interprovincial Standards Red Seal Program.

12. Did we get what we asked for during hearings and legislation review?

The quick answer is yes. ECAO was satisfied all major elements of its inputs to the government consultative process during the evolution of this legislation were considered. With the exception of the Ministry of Training Colleges

The new College of Trades provides the opportunity for industry to become directly involved in virtually every aspect of the training delivery process.

and Universities retaining most of the administrative aspects of apprenticeship training delivery, especially the determination of Training Delivery Agents, ECAO supports the College of Trades as it is now being proposed.

13. When will the College be operational?

The intention is to be operational as quickly as possible.

The Appointments Council shall be the initial College Board of Governors for a period of one year. The Appointments Council can, along with its appointments to College governance, begin to make Regulations as designated under the Act.

All current designations, determinations and contracts under the TQAA shall remain in effect until the yet to be determined start date for the College of Trades.

14. With almost one million potential College members how will logistics work?

The administration of the College of Trades will be a massive undertaking. Ministry statistics suggest we currently have over 79,000 apprentices in the system. There are over 150 apprenticeable trades in Ontario and at least 54 of these trades currently have a PAC. If the new Trade Boards end up being 10 members each that's 540 industry volunteers for that segment alone.

At present there is no ability to gauge what the workloads may be and therefore the necessary size for the Registration Appeals committee, the Public Complaints review panels, or the Discipline and Competency review functions to be performed in a timely manner. Logic suggests it will be necessary to have large pools of persons from across the entire province with competencies in each trade area to be available to sit as required.

In a similar manner it is logical to assume the Roster of Adjudicators will need to be populated with persons who have direct expertise or experience in each of the trades.

The first Registrar (CEO) of the College will certainly have a challenge hiring sufficient numbers of qualified support staff and developing and applying the logistics programs necessary to track all activities related to the mandate while also maintaining accurate records of decisions made and applying them to the affected parties. Even the task of trying to collect dues from nearly a million College members seems daunting.

15. Can I get involved?

Yes. Once the Appointments Council is in place they will be calling for nominations for volunteers from across all apprenticeship trades in Ontario and their employers. The call will likely be made in late April. ECAO will provide information on criteria and application processes



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as they become known. Decisions on remuneration for these positions will be determined under bylaw, by the Board of Governors. The range of positions to be filled are outlined below.

What are the next steps?

An Appointments Council is being established to determine the persons who will provide the College governance. Appointments include the overriding College Board of Governors, each of the four Divisional Boards (Construction, Motive Power, Industrial and Services) reporting to the Board of Governors, individual Trade Boards reporting to the appropriate Divisional Board, and a Roster of Adjudicators.

The Board of Governors shall have the power, with review by the Minister and approval of the Lieutenant Governor in Council, to make Regulations and Bylaws with respect to all the activities mandated to the College under the Act. These powers enable the Board of Governors to determine the “how to rules” around the College’s “what we are to do” mandate. (Part XIII – Regulations and Bylaws)

By the time this article is published the members of the Appointments Council should be in place. Directly affecting

you and your company will be decisions regarding who will be appointed from the construction sector to occupy the four seats for the construction sector on the 21 member Board of Governors and the four seats on the Divisional Board for Construction (Each Divisional Board has four seats plus a Chair from the Board of Governors). Given the Board of Governors and the Divisional Board for Construction must represent the entire construction sector of the province, it is logical to assume at most only two of these eight seats will be assigned to unionized contractors. Their decisions will impact on your skilled labour and how you and your company will operate, you should consider providing your inputs to ECAO regarding what perspectives these persons ought to bring to the positions and to make suggestions regarding whom you might wish to recommend.

While specific Trade Board size criteria are still to be developed, the Appointments Council will also be designating the members of each Trade Board. They will have the flexibility to appoint anywhere from four to 12 members per committee depending on the specific needs of the particular trade. Trade Boards, through the Divisional Board, will establish training standards, curriculum standards, examinations and ongoing education.

Electricians and electrical contractors have historically been mostly satisfied with the former Provincial Advisory Committees (PACs). Now there is the opportunity for you to provide your perspective to ECAO on how to make improvements, what skills you feel the members of the committee need to possess, recommend persons to serve and to consider offering your name as a volunteer.

Perhaps the most interesting component of the initial College of Trades structure will be the appointments to a Roster of Adjudicators. These persons are to be a resource group from which the Board of Governors and Divisional Boards may form three-person Review Panels to consider such matters as journey person to apprenticeship ratios or to determine requests for compulsory trade status. While the Board of Governors is required to determine the overall criteria for granting compulsory trade status, it appears the review panels will then be able to bind the Board to their decisions regarding ratios and/or trade status. Once again it is highly recommended you consider persons you would support to populate the Roster of Adjudicators and inform ECAO.

ECAO will ensure all member inputs received are available to the Appointments Council for their consideration. The College of Trades is our industry’s opportunity to be directly involved in the decision making and enforcement of labour market training and delivery initiatives. You are encouraged to become an active participant.

For greater detail please reference the College of Trades and Apprenticeship Act at: <http://www.canlii.org/en/on/laws/stat/so-2009-c-22/latest/so-2009-c-22.html>

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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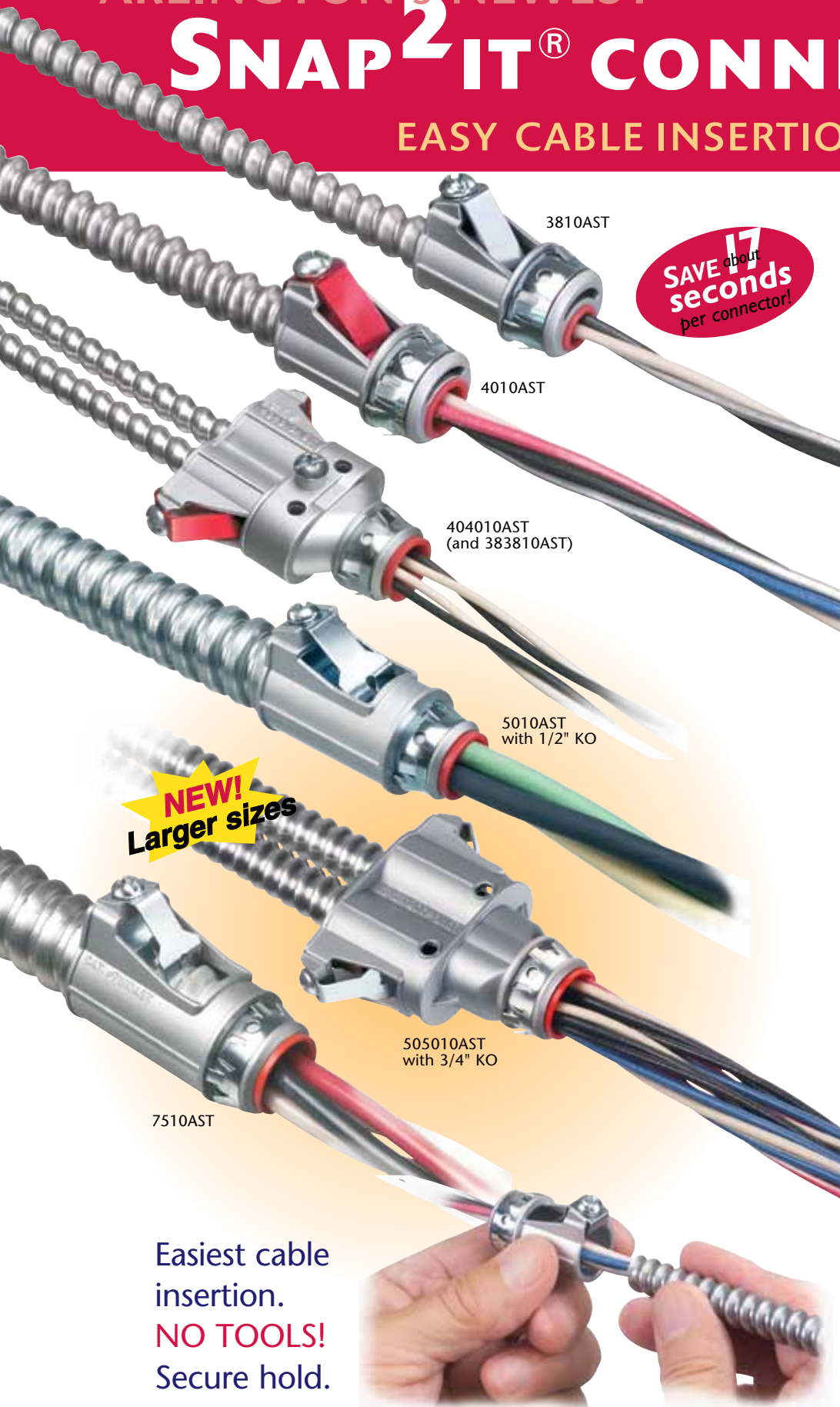
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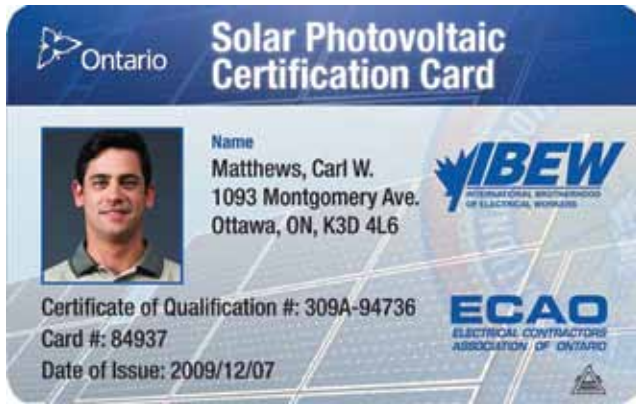
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IBEW Construction Council of Ontario and ECAO Launch Solar Photovoltaic Training

The passing of Ontario's Green Energy Act is expected to lead to an explosive growth in clean and renewable energy sources for this province. In fact, the goal of the provincial government is to make Ontario North America's green energy leader.

By introducing a Feed in Tariff (FIT) that guarantees specific rates of return for green energy, establishing the right to connect to the electricity grid for renewable energy projects that meet technical, economic and other regulatory requirements and establishing

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a one-stop streamlined approvals process and providing service guarantees for renewable energy projects that meet regulatory requirements. The provincial government expects upwards of 50,000 jobs to be created as a result of this initiative.

While there is some debate about the final job creation tally, there will be economic benefits for those who are prepared to take advantage of this initiative. John Pender, the Executive Secretary-Treasurer of the IBEW Construction Council of Ontario realized the important role that solar related energy projects will play in the future. "We have to be ahead of the curve. There are media

reports in most of the urban centres that there is a race on to lock up leases on roof tops to take advantage of the handsome payments from the province for solar energy. Having a trained workforce and motivated contractors will help us get this work."

Peter Olders, Provincial Training Director for the IBEW CCO, was charged with the task of developing a solar photovoltaic training curriculum. Starting in May 2009, Peter put the wheels in motion. "I knew we didn't have a lot of time to develop a curriculum once the provincial legislation was passed. I wanted to see what training was out there and then develop a

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program to make sure IBEW members had the most up-to-date training anywhere.”

Olders consulted with the National Joint Apprenticeship and Training Committee (NJATC) in Washington along with several IBEW locals in Ontario and across Canada who had some experience with solar voltaic training. By reviewing existing training standards and interviewing other training directors,


Peter began to develop a list of best practices. Using the NJATC training material as the basis of the Ontario curriculum, Olders modified the template to meet the requirements of Ontario’s codes and standards. On top of this, Olders wanted to make the material relevant and responsive to the requirements of the FIT program.

Over July and August, he began the task of synthesizing and modifying the Ontario training curriculum in preparation for pilot testing in September 2009. At the urging of local 586 Business Manager James Barry, the pilot training took place in Ottawa. This was only fitting, as one of the largest solar farms in North America was slated for Arnprior, Ontario. His objective was to not only create a leading edge training curriculum, but he also wanted to train a pool of trainers who could teach the course.

Based on the feedback, Olders modified the material and finalized the course for the initial train the trainer session in late September. This gave the IBEW an initial pool of 25 trainers for the 13 IBEW Local unions across Ontario.

In order to let the broader green energy community know of our training and our contractors who specialize in solar photovoltaic installations, the ECAO’s Eryl Roberts and IBEW CCO’s John Pender agreed that we had to have a significant presence at the Canadian Solar Industry Association (CanSIA) Annual Conference. Thus plans were made to announce that ECAO contractors and IBEW Locals were ready. Through the Joint Electrical Promotion Plan a booth was created under the banner of Engage our Expertise. The new IBEW solar photovoltaic certification card was launched at the trade show and the booth was staffed by both contractors and IBEW members who had worked in the solar field. Based on the large number of visitors to the booth, both the ECAO and the IBEW gained a great deal of profile in the solar energy community.

What the future holds – nobody knows for sure. There is some risk that the solar industry will become the wild west – with little or no installation standards and non-skilled workers attempting to install these devices. This was the case recently with water



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meter installations in the Greater Toronto Area. Certainly the community colleges see an opportunity to develop “certified solar installers.” It is also expected that other groups will see the rise in solar activity as an employment opportunity.

It is encouraging to hear Elizabeth McDonald, President of CanSIA, state that “CanSIA always recommends that PV installations are done professionally. In the end, this is about electricity and your safety.” The electrical industry must do its

part to ensure that whatever happens, electrical energy generating devices are always installed by a certified electrical contractor and a licensed electrician. The ECAO member contractors and IBEW licensed electricians must be prepared for these opportunities.

For more information on the Solar Photovoltaic Training Curriculum, contact Peter Olders at 416.674.6940, extension 225 or polders@comtraining.ca.



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Big Cheque, Big Change?

How to Cope with a Financial Windfall



By Stanley Tepner

Imagine the delicious dilemma of a top National Hockey League draft pick: having worked hard and played hard his entire life, he is on the brink of realizing his aspirations and becoming an NHL player. And he is about to sign his first professional contract for an amount of money that will be far greater than anything he has dealt with before.

The young athlete will have to hone more than just his skills on the ice; he is going to have to learn how to deal with this large influx of money, and the myriad of other personal issues that derive from newly acquired wealth.

Most of us would agree that the draftee's delicious dilemma is "a nice problem to have." We would also start mentally constructing our own fantasy shopping lists. After all, who hasn't engaged in the whimsical conversation of what one would do if one won the lottery?

Yet for the young hockey player our fantasy has become his reality. He can look

forward to at least one contract that will pay him far more than most people his age and most everyone else. If he proves to be as good as a pro as he was as a prospect, he should see even larger paydays in the future.

Nevertheless, making the jump to the instantly rich category is not all about how the athlete is going to spend his newfound riches. Sure, that's an important element of the equation, but there are bigger and more important challenges for him to tackle.

The first issue is making sure that his new wealth can be used to help him meet not only his short-term goals, but as many of his long-term goals, as well. His ability to generate extraordinary earnings as a professional athlete is linked to his skill level, his age and his ability to avoid career limiting or career ending injuries. So the money he generates as an athlete may have to serve him and his family long after his playing days are done, and engaging the services of skilled financial, legal, tax

and other professionals may be crucial to helping him achieve his longer-term goals.

A second issue is dealing with what is known as “sudden wealth syndrome” (SWS). SWS was coined by Stephen Goldbart, a California-based psychologist, in the 1990s to describe the psychological challenges faced by newly rich Silicon Valley entrepreneurs as a result of their sudden success and wealth. He noted that many of these individuals were suffering from a variety of stress-related disorders, all linked to having to deal with the dramatic increments in their net worth. Goldbart found that people with SWS exhibited symptoms such as excessive guilt, paranoid thinking, fear of loss of control and sleep problems.

A third issue is the interpersonal one. When you deposit a big cheque in your account, and people know about it, you are going to hear from them. Family members, friends and work colleagues may nudge up to you for handouts, or may act jealously of you. Old friends may appear out of the blue, in numbers greater than you could accumulate in a year on Facebook. It seems that everyone wants a piece of you. If you're a newly rich athlete, they want your autograph...on a cheque.

Other Big Cheques

Pro athletes aren't alone in having to deal with the consequences of instant wealth. In fact, as a group they probably represent the smallest segment of people in these circumstances.

Consider these other recipients of newfound riches:

1. Inheritance:

No group of people will likely have to deal with the consequences of newly found wealth over the next 10 to 20 years as frequently as will inheritors. But inheriting a lot of wealth isn't necessarily easy, especially when it significantly enhances your net worth. Managing the financial side is critical, as it is in all instant wealth situations. But the emotional side may have even more impact. An inheritance is received because someone, usually close, has died. The recipient may still be grieving the loss of their loved one, and receiving their assets can be a very difficult emotional challenge.

Feelings of guilt may also appear when one receives a significant inheritance, either because the inheritor is receiving money they hadn't earned, or the inheritor is not proud or comfortable with the way it was earned. I often hear, “I have to protect this money, because my parents worked hard all their lives to amass it.”

2. Widows and widowers:

A new widow or widower frequently finds herself or himself not only immersed in grief, but facing the daunting task of having to manage her or his finances alone going forward. Many widows and widowers had left this responsibility entirely in the hands of their departed spouse (“my late spouse/partner used to look after all the money matters and I have little experience with it”), and so approach their new responsibilities with a blend of emotions, not the least of which is fear.

3. Divorce settlement:

Usually the new divorcee is dealing with fewer assets and income as a single person than had been managed as a couple within the marriage, but as



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in the case of widows and widowers, the divorcee might have previously left all the financial decision-making to their ex-spouse. Once again, financial management may be new territory, and it may become a responsibility during the emotionally charged period that frequently follows the separation of spouses.

4. Insurance settlement:

Often received as a result of damages to one's person or one's property, a large insurance settlement is crucial in helping the recipient resume the course of their life to the maximum extent possible. The damage may have been severe enough that the recipient has had to change the intended course of their life, and impaired their ability to generate as much income as before, and/or enjoy the same quality of life as before. The settlement requires careful financial attention, and emotions may be raw, as well.

5. Sale of a business:

An entrepreneur's emotions are usually conflicted when selling the enterprise they spent so much of their life building and coddling. The business was their source of income and in many cases their identity. That productive business asset, upon which the entrepreneur could exert significant control, has become a large amount of money, which threatens to control them.

6. Asset transfers after a job loss or retirement:

The severance or retirement package offered by one's former employer may be substantial, and the decision about what to do with one's pension is often of much bigger consequence. Usually the former employee is offered the opportunity to take control of their pension plan by transferring its commuted value to a retirement plan, in lieu of receiving lifetime pension payments. This is a very difficult decision for an individual to make, especially for a former employee who hadn't managed a lot of money before this, and could now choose to be totally responsible for the success of their retirement plan, if they opt out of the pension. While this is a good idea for some, unfortunately, too many individuals made poor investment selections after transferring the commuted value, which had very dire effects on their retirement plans.

7. Lottery winners:

Lottery winners experience momentary ecstasy, but often make the absolute worst decisions with their instant wealth. They frequently make the headlines, and reporters inundate them with the usual questions, such as "what are you going to do with your newfound wealth?" Their answers usually appear in a list of expenditures and gifts, without much consideration of the myriad of other issues that may face the instantly wealthy. All too often, the lack of planning and guidance leaves the lottery winner much poorer, both financially and emotionally, than they had been before their moment of ecstasy.

The "Arnie Approach"

So what should any of these newly moneyed individuals do? If I was the hockey player's advisor, I would recommend that he follow the "Arnie Approach" (named for my late father and hockey coach, Arnold Tepner, who deployed this methodology after selling his business):

1. Freeze the puck and call a time out:

Get the ref to blow the whistle, and call for a time out. There is no need to do anything quickly with one's newly

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acquired wealth. Take a breather and let everything settle down. Try to avoid telling others about your new situation, unless they need to know. Sure, some people are going to solicit you, but you should adopt the reply my father regularly used when he wasn't ready to make a decision, "if you want a fast answer, it's no!"

2. Gather your team together at your bench:

With new wealth comes new responsibilities and new opportunities. Take the time to build a team of high-calibre professional advisors that can guide you through the more complex world that large incremental wealth leads to. You should have a detailed financial plan created to help you manage your short-, medium- and long-term money requirements. It should be linked with a tax-effective asset management structure and a tax-minimizing estate plan. Seek out the best financial planner, accountant, lawyer, banker and estate/insurance advisor available. Try to include a wealth psychologist on your team as well.

3. Tell your team what your main goals and priorities are:

Your money and your life priorities march hand in hand. Be open and honest about what you want to achieve, and what kind of legacy you would like to leave after you go. Divide your goals into short-, medium- and longer-term categories, and add a legacy category. Consider the lifestyle you wish to have, and how you would like to help your family, friends and community, if you can. Consider the career you'd like to have. Will your newfound wealth afford you the opportunity to make a change? Let your team know your "shopping list."

4. Develop the game plan:

Take all the time you need to put all components of your new wealth plan together. Encourage your advisory team to work together for you. It is really important to share your values, hopes and dreams with your team. Money means different things to different people; some people are spendthrifts, while others follow budgets carefully; some people pay little attention to their money, while others pinch pennies carefully;

and some people are selfless with their money, while others spend to build status in their eyes. When the components of the plan are ready, then it's time to send your team back onto the ice.

5. Put your game plan into action:

Taking that first stride with your new game plan can be daunting, and your emotions may be swirling about, but it's a good plan, and the referee is about to drop the puck. You know what your goals are. Your team is all

around you. It's time to skate. It's time to score.

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 email at stan.tepner@cibc.ca.

The views of Stanley Tepner are not necessarily those of CIBC World Markets Inc. Clients are advised to seek advice regarding their particular circumstances from their personal tax and legal advisors.

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Prevention steps

Use the proper circuit protection on equipment. Never bypass protection “just this once.” Temporary bypasses are easily forgotten and are too dangerous even when they are not forgotten.

Smoking is the number two cause of industrial fires. It is the number one cause of premature baldness and male impotence. It is a leading cause of cancers of the bones, bladder, testicles, bowels, brain, tongue and lungs. It is a leading cause of heart attacks, emphysema, and other illnesses. Think about this when you decide to light up. If you light up in the workplace, you endanger everyone. *[The Smoke-Free Ontario Act stipulates that no person shall smoke tobacco or hold lighted tobacco in any enclosed public place or enclosed workplace or a prescribed place or area, over which the employer exercises control. 2005, c. 18, s. 9.]*

To reduce the fire danger from smoking, smoke only in approved areas and use the ashtrays provided. A carelessly flicked ash or tossed butt can easily roll under an ignitable and cause a fire. It is also easy to ignite a trail of fuel fumes, which can then ignite the fuel from a considerable distance.

Pick up all food wrappers, beverage containers, napkins, and other disposable items used at meals and breaks. Dispose of them properly to prevent attracting rodents and insects.

Clean up any oil, fibres, or dust on or around equipment and machinery.

If an oil spill is too big to clean up easily, report the spill to your foreman. If you must leave the area to report the oil, leave some

kind of marker – an oil pig or other absorbent material is sufficient – so others can see the spill.

If fuelling a portable generator or heater, use an approved fuel can and dispenser. Do not, for example, use a paper funnel when adding fuel. Try to do the refuelling outside, away from ignition sources.

Store flammable and combustible materials in appropriate containers away from heat sources. For example, place touch-up paint in yellow lockers made for storing such materials.

Dispose of flammables – solvents, fuel, oil and the like – according to established guidelines. Most likely, this will be in a container just for flammables.

Dispose of ignitables – paper, cloth, cardboard and the like – according to established guidelines. Most likely, this will be in a regular trash container.

Never leave open flames unattended.

Before using spark-producing equipment, such as a welder, ensure the work area is free of ignitables.

Before using flame-producing equipment, such as a cutting torch, ensure the work area is free to ignitables.

Arsonists are a reality. Report suspicious activity to your foreman and to security.

Fire happens

Keep fire exits and escape routes clear and well marked.

Know the location of alarm boxes and fire extinguishers.

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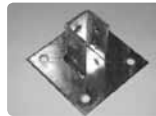
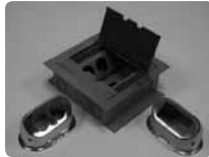
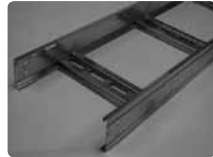
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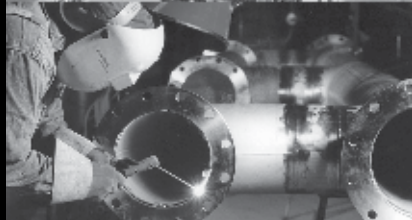
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Exhibit A: "The Ply-Swatter"



Exhibit B: "The Cheese-Grating Hard Hat"

Some do.

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