

Ark Tsisserev Leaves City of Vancouver

April, 2010



Editor's Comments

In a shocking development Arkady Tsisserev Chief Electrical Inspector and City Electrician for the City of Vancouver was dismissed from his position. The reason given was that his position had been eliminated due to severe budget constraints caused by the economic downturn. Ark's dismissal has sent shockwaves through the electrical safety community both locally, nationally and internationally. Ark is the leading Canadian expert on Electrical Safety and is the go to person for any and all life safety issues. Ark either chairs or is a member of many electrical safety code and international committees. Ark was a tireless worker and brought the City of Vancouver to the forefront of electrical safety and life safety in Canada and North America. He has received many awards for his excellent work in Code and Standards development locally and internationally.



Ark did not deserve the treatment he received and will be sorely missed at the City and by his colleagues.

Arkady (Ark) Tsisserev the former Electrical Safety Manager/Chief Electrical Inspector for the City of Vancouver. He is a registered Professional Engineer with a Master degree in electrical engineering. Ark is the Chair of the Technical committee for the CE Code, Part I.

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Letter to the Editor

From Bill Burr

On Thursday, January 23 at around 3pm PST, Ark Tsisserev was summarily terminated by the City of Vancouver. The reason given was that the duties of his position were combined with another and that his position was being eliminated. While this might seem to be a plausible reason, the termination was done without any opportunity for Ark to wrap up his affairs, his laptop and

blackberry were taken, and he was ushered out of the office. Not respectful treatment for a long term senior employee with an excellent record, and approaching retirement. Another indicator that this is unusual is that the City announced in a statement to the Vancouver Sun, the same day that notice was given to 44 employees that they might be laid off in 60 days. The City also stated that no one would be laid off before or during the Olympics. Ark's termination is even more suspicious because the position of City Electrician in Vancouver is a position ap-

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pointed by City Council under Section 312 of the Vancouver Charter and the position is also the local safety manager for the purposes of the BC Safety Standards Act.

Although not specifically stated, it is generally held that this position should be a Professional Engineer in the electrical discipline since many of the duties of the position are engineering functions. As noted above, the duties of this position are being combined with another; however, Ark Tsisserev is the only Professional Engineer in the Permit and Licensing department with electrical expertise.

As some of you may know, the City of Vancouver, during the last year, stopped supporting Ark in Codes and Standards work. Although his travel expenses were funded by CSA and others in the industry, he used his vacation days and weekends to attend meetings and attend to Codes and Standards issues. CSA's submissions to the City management to allow Ark to continue with his codes and standards work were not successful.

The timing of Ark's termination couldn't have been any worse. The Olympics were approaching and Ark was heavily involved in coordination of a wide range of electrical safety aspects related to electrical installations and the use of electrical equipment in conjunction with the Games. He was also instrumental in providing advice on electrical safety requirements for new sustainable and Green energy initiatives such as the electric vehicle charging infrastructure and the demonstration of the electric vehicle charging equipment by GM Canada during the Games.

As we all are aware, Ark is an outstanding leader in the Electrical Safety and Fire Safety community, not only within the City of Vancouver, but also within BC, Canada and North America. As the Chair of the Canadian Electrical Installation Code committee for the past three editions of the Code, as well as numerous other national and international technical and standards committees, Ark has made a significant contribution to the safety of Canadians and indeed North Americans. He is also well respected

in the United States and his input is valued. Ark is a member of the National Electrical Code, Code Making Panel # 1 and co-chair of the NEC/CEC Ampacity Task Group, tasked with harmonizing the ampacity ratings of conductors and equipment between the two national codes. He is a valuable asset to Canada and the rest of the Americas. His outstanding service and the esteem with which he is held within the engineering profession is an immense credit to the City of Vancouver. He has received numerous technical awards, citations and fellowships, including the Association of Professional Engineers and Geologists of BC Professional Service Award and the prestigious Canadian Standards Association John Jenkins Award. For his life-long contributions to the engineering profession and betterment of electrical safety in Canada, Ark Tsisserev has been inducted into the Fellowship of the Engineers of Canada. In addition, Vancouver City Council has twice formally recognized Ark's contribution to electrical safety in the City of Vancouver. In addition the electrical safety community so relies on Ark's expertise that it provides him with travel expenses to participate in standards meetings.

Bill Burr was the former Chief Electrical Inspector for the Province of B.C.

EIA Election Results

By Paul Stevens

The election for the named executive and directors was held at our General meeting on February 08, 2010. The position of president was an open position and Roger Tuttle put forward his name for the position there were no other nominees. Also a directors position was open and Vince Pietracupa name was put forward for the position. There were no other names put forward for the position. The results of the election (all by acclamation) were:

- 🌟 **President** - Roger Tuttle
- 🌟 **Vice President** - Farmand Ghafari
- 🌟 **Treasurer** - Eric Sipila
- 🌟 **Membership Secretary** - George Razzo
- 🌟 **Recording Secretary** - Ted Simmons

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Renewal Time — Last Call!

According to the EIA records as of, March 17, 2010, the following members have not renewed, for 2010. If you find your name on the list, and would like to renew just circle your name and return this page with your renewal fee. Thanks, *George Razzo*

Saeid Abbasi	Ebrahim Abhari	John Arnott	Ted Ashman
Valdo Balen	Ben Barker	Kris Bilinsky	Carlo Bolognese
Trevor Broughton	Richard Brownie	Dan Zaklan	Christian Christopherson
Anca Cojocar	Edison Electric	Lorne Fowler	Stephen Hinde
Bob Hirsch	Collin Honeyman	Dan Janelle	Bryan Joyce
Hamid Khanifar	George Kirk	Ramtin Mahdavian	Greg Maxwell
John McMahan	Kouros Memari	Jonny Mutch	Martin Pilcher
Ali Pourghaderi	Mark Prpic	Lorne Scott Tilley	Matt Simpson
Tejinder Sira	Sam Stean	Jeffery Su	Kevin Wiersma

Has anything changed, if so please complete the renewal form on the last page of this Newsletter.

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Directors

- ✱ Kerry Peterson
- ✱ Paul Stevens
- ✱ Deborah Cahill
- ✱ Nick LeForte
- ✱ Vince Pietracupa
- ✱ **Past President** — Jack Ball

Congratulations to the board members on their reappointments and also to Vince for joining the Executive team.

Most of the executive have been on the board for a long time with positions being changed (President, Vice President etc) to accommodate our constitution. However it is time that our general membership start to think on taking a more active role in the association and having their names put forward next February at the General meeting. You can start as a director if you do not feel that the named position are for you yet. So I urge you to start to think about helping out and becoming part of the executive next year. Thank you and look forward to seeing at our next AGM.

Ark Tsisserev Safety Presentation at the Annual Meeting

It was business as usual for the Annual General Meeting of the British Columbia Electrical Inspectors of British Columbia on February 8, including a feature presentation by Ark Tsisserev, the former chief electrical inspector and safety manager for the City of Vancouver. Ark's informative presentation, scheduled for the AGM months in advance, was delivered in his inimitable style with incisive wit and humour, on the topic of 'safety, and the checks and balances that are the framework of the Canadian Electrical Code'.

One of the most highly respected individuals in the electrical field internationally, Ark was dismissed from his position recently amid an overwhelming response coming from individuals and organizations

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in the electrical community in Vancouver, the province, across Canada, North America and even Europe, who have reacted with outrage at his dismissal. Also of concern was, with safety being of such critical importance to the Vancouver 2010 Olympics, that his termination should come only three weeks before the event's opening ceremonies. Not to mention, also, that it should come only months before his retirement.

Quoted in a CTV news item about Ark's termination, Bill Burr, former chief electrical inspector for B.C. said, "Why would they let him go before the Olympics? The chief electrical inspector has all kinds of things to do in a busy time like this. There are all kinds of temporary installations going up, tents and all those activities that have electrical power in them."

A dedicated member of the electrical industry and a nationally recognized authority in the field of electrical and fire safety, Ark has made many contributions within the City of Vancouver as well as within B.C., the rest of Canada, and North America. As chair of the Canadian Electrical Code Part I committee for the past three editions of the Code and, as an active member on numerous other national and international technical and standards committees, he has made significant contributions to the safety of Canadians, and indeed other North Americans as well.

Included in Ark's numerous technical awards, citations and fellowships are the Association of Professional Engineers and Geologists of BC Professional Service Award, and the prestigious Canadian Standards Association John Jenkins Award.

The John Jenkins award is given to those who have

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shown leadership in various areas through personal involvement over a period of years in the development, advancement, and application of voluntary standards; encouraged the development and advancement of standards both nationally and internationally; and through foresight and action, have helped to substantially advance the arts and sciences related to standardization.

For his life-long contributions to the engineering profession and betterment of electrical safety in Canada, he has been inducted into the Fellowship of the Engineers of Canada, and twice recognized by Vancouver City Council for his contribution to electrical safety in the City of Vancouver.



City of Vancouver electrical inspectors were out in force to support their former boss, Arkady (Ark) Tzisserev (front row centre, 4th from left), at the Electrical Inspectors Association of British Columbia Annual General Meeting.

And it is certain that Ark's contributions and influential presence in the industry will not end here.

Courtesy, Electric Line

GFCIs – Where are they?

by Leslie Stoch

The 2009 Canadian Electrical Code is peppered with references to, and requirements for ground-fault circuit interrupters (GFCIs). For very good reasons, GFCIs have become prevalent throughout many sections of the electrical code. And usually without our knowledge, they have no doubt prevented many injuries and saved many lives. This article provides a summary of these CEC rules.

Rule 2-134 – A GFCI is permitted as supplementary protection against shock hazards but not as a substitute for grounding, except in the case of **Rule 10-408(4)** power tools, and **Rule 26-700** receptacles, when grounding is otherwise unavailable.

Rule 24-116 – Receptacles in wet locations in patient care facilities or where work areas are washed down must be protected by a Class A GFCI or supplied by an isolated system. As a reminder, a Class A GFCI as defined in the CEC, Appendix B, will interrupt the circuit for ground-fault currents of 6 mA or more but not less than 4 mA.

Rule 26-700(11) – Receptacles within 1.5 m of sinks, bathtubs or shower stalls must be protected by a Class A GFCI except when located behind a stationary appliance such as a clothes washing ma-



chine and therefore inaccessible for portable appliances.

Rule 26-758(1) – Bare water heating elements must be protected by a Class A GFCI.

Rule 26-956(1)(d) – Submersible pumps installed in lakes, streams and rivers must be protected by a GFCI, but not necessarily a Class A type. The GFCI must be capable of tripping at maximum 10 mA in no longer than 2.7 seconds.

Rule 30-320(3)(b) – A light switch must be at least 1 m from a shower stall or bathtub. If this is not possible, it may be installed not less than 500 mm from a shower stall or bathtub, and protected by a Class A GFCI.

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Rule 32-110(a) – Smoke and carbon monoxide alarms in dwellings must not be installed in circuits protected by a GFCI or AFCI.

Rule 32-212 – Fire pump circuits must not be protected by a GFCI.

Rule 38-085(1) & (2) – Receptacles installed in pits, hoistways, elevator and enclosed vertical platform lift cartops, escalator or moving walk wellways, machine rooms and machinery spaces must be protected by a Class A GFCI.

Rule 68-056 – The horizontal separation between the inside walls of a pool and underground wiring, except for bonding conductors or conductors supplying equipment associated with the pool and protected by a GFCI, must not be less than shown in Table 61.

Rule 68-064(2) – Receptacles located between 1.5 m and 3 m from the inside walls of a pool must be protected by a Class A GFCI.

Rule 68-066(6) – Lighting installed below the surface of a pool or within 3 m of its inside walls must be protected by a Class A GFCI unless separated by a fence or other barrier.

Rule 68-068 – GFCIs for pools, tubs and spas must be of the Class A type and must:

- Except when the correct rating is unavailable, have trip settings equivalent to a Class A GFCI.
- Be permanently installed to protect feeders, branch circuits or devices.
- If in a switched circuit, include a warning to test regularly.
- Be located so as to facilitate testing.
- Not be within 3 m of a pool and not within 1.5 m of a spa or hot tub unless the GFCI is an integral part of the equipment or behind a barrier
- Unless separated by a barrier, protect equipment

in the water, audio amplifiers for underwater speakers, electrical equipment within 3 m of a pool and wet areas of pool buildings.

Rule 68-100(4) – Conductors protected by a GFCI must be independent from other wiring.

Rule 68-202(1)(b) – Swimming pool pumps must be protected by a Class A GFCI if they are within 3 m of pool, unless separated by a barrier.

Rule 70-122(4) – Receptacles intended for heating cables underneath mobile homes must be protected by a Class A GFCI.

Rule 72-110(4) – 15- and 20-ampere receptacles in a mobile home park for connection of mobile homes must be protected by a Class A GFCI.

Rule 76-016 – 15- and 20-ampere receptacles for temporary construction power must be protected by a Class A GFCI.

Rule 78-052(4) – 15- and 20-ampere receptacles, except for locking types, on piers, docks and wharves, primarily used for shore power for boats must be protected by a Class A GFCI.

Rule 78-102(3) – 15- and 20-ampere receptacles on piers, docks or wharves in fishing harbours or marine structures, used for other than shore power for boats, must be protected by a Class A GFCI.

But you didn't think we had this many! As with previous articles, you should always consult the electrical inspection authority in each province or territory for a more precise interpretation of any of the above.

Courtesy, IAEI News

What's New
Do you have any
technical informa-
tion or letters to the
editor, please mail or
email :
info@eiabc.org

Review of the Changes to the 2009 Canadian Electrical Code

by Ted Simmons

This is the fifth article in a series reviewing the changes to the 2009 Canadian Electrical Code. This article will focus on the changes pertaining to **Sections 12, 14 and 16**.

Before proceeding with the review of these Sections, I would like to address a question that was submitted following the previous article on the changes to Section 10. The concern pertained specifically to the revisions to Rule 10-812 and questioned how a continuous metallic public water piping system provided multiple paths back to the source. The multiple paths back to the source are in fact formed by the grounded conductors (usually the neutral) of neighbouring installations being connected to the same water main. The resistance of the grounding circuit is reduced due to the multiple paths resulting in the possibility of higher current levels thus necessitating the need to size the grounding conductor according to Table 17.

Section 12 – Wiring Methods

Rule 12-010 – Wiring in ducts and plenum chambers

In order to eliminate redundancy, the previous Subrule (4) requirement permitting the use of flexible cord to supply recessed fluorescent luminaires installed in a suspended ceiling that creates a plenum or hollow space, has been relocated to Rule 30-912 in Section 30.

Rule 12-012 – Underground installations

Subrule (12) has been added to address the problems of raceway or cable movement due to settlement or frost. The rule requires that provision shall be made for the prevention of damage to the conductors or the electrical equipment. The installation of an expansion joint could provide an effective solution to this problem. A new note providing further information on this requirement has been added to Appendix “B”.

Rule 12-106 – Multi and single conductor cables

To improve clarity in Subrules (4) and (5) the terms nonferrous and ferrous have been replaced with non-magnetic and magnetic, respectively. The primary concern in both Subrules (4) & (5) is to reduce the inductive heating effect that can result when single conductor current cables are encircled by magnetic materials.

Rule 12-108 – Conductors in parallel

In order to minimize the difference in inductive reactance and the unequal division of currents, Subrule (4) was added and now requires that where parallel conductors include grounded circuit conductors, each parallel set shall have a separate grounded circuit conductor. The diagrams of the configurations for the installation of parallel single-conductor cables located in Appendix “B” have been revised to reflect this change.

Rule 12-112 – Conductor joints and splices

The previous Subrule (1) has been divided into two subrules to improve clarity. In order to recognize current practices, the term solderless wire connector was replaced with splicing devices approved for the purpose. By removing the word insulated, the revised Subrule (1) now applies to all conductors whether they are bare or insulated. Subrule (1) was also revised to permit conductors to be spliced or joined by other means such as brazing or welding.

Rule 12-116 – Termination of conductors

Two new subrules have been added to this rule: Subrule (1) was added to identify the methods by which conductors shall be connected to terminal parts and Subrule (3) was added to identify the requirements for the termination of stranded and solid conductors No.10 AWG and smaller.

Rule 12-608 – Continuity of armoured cables

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This rule was revised to clarify that the mechanical and electrical continuity of the armour for an armoured cable must be maintained throughout the entire run. The concern here is to ensure the continuity of bonding for the metal armour.

Rules 12-700, 702, 704, 706, 710, 712 and 716 have been revised to reflect the use of copper clad cables. **Rules 12-1714 and 12-1806** were also revised to reflect this change.

Rules 12-1100, 1104, 1106, 1108, 1112, 1114, 1116, 1120 and 1122 have been revised to reflect the removal of HFT conduit. As noted previously, this type of conduit is no longer manufactured.

Cable Trays

Rule 12-2200 – Method of installation

The note located in Appendix “B” pertaining to cable tray installation has been revised to caution installers that locating cable tray supports at or near the center of a span or near cable tray joints may significantly increase the deflection of the cable tray. With regards to the horizontal clearance requirements, Subrule (6)(c) has been revised to take into account the width of the cable tray. For example, if the width of the cable tray installation does not exceed 1m; then a 600mm horizontal clearance on one side of cable trays mounted adjacent to one another or to walls etc. is acceptable. However, if the width of the cable tray installation exceeds 1m, a horizontal clearance of 600mm must be provided on each side of the cable trays mounted adjacent to one another. In order to allow for expansion, Subrule (7) was added to require at least one expansion joint be installed in any cable tray run where the expansion of the cable tray due to the maximum probable temperature change during and after installation could damage the cable tray.

Rule 12-2210 – Ampacities of conductors in cable trays

In Subrules (1), (2) and (3), the word “adjacent” has been added to clarify that the spacing between conductors is based on the diameter of the largest adja-

cent conductor. This is a significant improvement from the previous Code which required the spacing of all conductors to be maintained at greater than 100% of the largest conductor or cable diameter.

Section 14 – Protection and Control

Rule 14-102 – Ground fault protection

In the previous Code, Subrules (1)(a) and (1)(b) referred simply to solidly grounded systems. This led many people to believe these requirements pertained only to “systems” and did not apply to circuits and feeders. To correct this situation, the Code has revised items (a) and (b) of Rule 14-102 (1) by inserting the wording “for circuits of” solidly grounded systems.

Section 16 – Class 1 and 2 Circuits

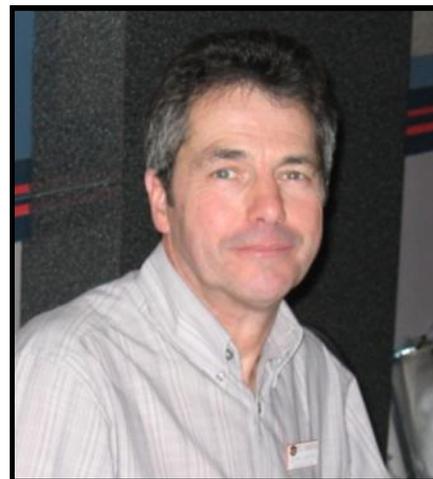
Rule 16-222 – Equipment located on the load side of overcurrent protection, transformers, or current limiting devices for class 2 circuits

Subrule (2) has been revised by replacing the term “lighting fixtures” with “lighting products”. This change was made to clarify that all lighting products such as luminaires, rope lights, lighting devices that incorporate LED’s, etc. and that are connected to class 2 circuits must be approved.

A new note providing examples of lighting products has been added to Appendix “B”.

More on the changes to the CEC Part I in future articles.

Ted Simmons, is Chief Instructor, Electrical Apprenticeship Program at the British Columbia Institute of Technology, Ted can be reached by e-mail at



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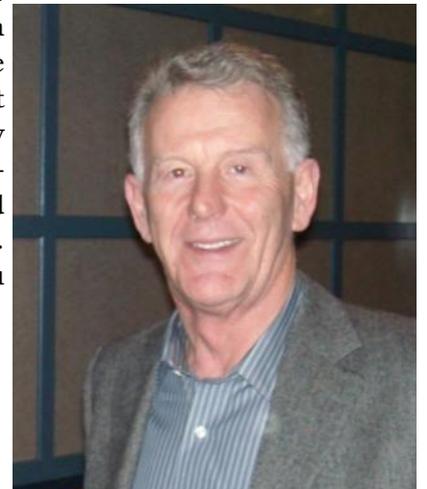
Presidents Message

Hello everyone, Thank you for your support, I am looking forward to the challenges in the year ahead. I would like to take this opportunity to thank Jack Ball our previous president for a job well done and extend congratulations and thanks to our returning executive and director members : George Razzo, Ted Simmons, Deborah Cahill, Farmand Ghafari, Rick Porcina, Kerry Peterson, Paul Stevens, Eric Sipila, Nick Leforte. A warm welcome also to the newest member of our board of directors Vince Pietracupa of Intertek, Vince is the son of long time member and former president Alfie Pietracupa. Thanks for getting involved Vince. As you may have read in our cover story Arkady Tsisserev former president and long time EIA member is no longer with the City of Vancouver. Ark was an excellent manager with a passion for electrical safety. He was

always there for our association when we needed a presenter for our seminars and meetings and constantly came up with interesting presenters for our meetings. A prolific writer, we used many of his articles in our news letter.

Ark was one of a kind and will be irreplaceable at the City. I am sure he will move on from this to many more years of involvement in electrical safety and standards development. I am proud to call him friend . Good luck to you Ark.

Roger Tuttle



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EIA of B.C.

GENERAL MEETING

Monday, April 26, 2010

Cheers Restaurant

125—East 2nd Street, North Vancouver, B.C.
(just off Lonsdale Avenue)

SOCIAL HOUR: 5:15 — 6:00 p.m.

DINNER: 6:00 — 7:00 p.m.

MEETING: 7:00 — 9:00 p.m.

Dinner: \$30

✳ **Presentation is on the topic of Green Energy by Bill Kulsky of Powertech.**

✳ **Business meeting**

Most Important for Reservations: Please Phone Dwayne Askin (778) 396-2050 or Email: Dwayne.Askin@safetyauthority.ca

Membership Application & Renewal

- | | | |
|--------------------------|---|-----------|
| <input type="checkbox"/> | For 1 year (Jan 1, 2010—Dec. 31, 2010) | \$ 50.00 |
| <input type="checkbox"/> | For 2 years (Jan 1, 2010—Dec. 31, 2011) | \$ 100.00 |
| <input type="checkbox"/> | For 3 years (Jan 1, 2010—Dec. 31, 2012) | \$ 150.00 |

- New Membership** Name (Please Print) _____
- Address _____
- Renewal** City _____ Postal Code _____
- Inspector** Company _____ Title _____
- Associate** Email _____

**Mail to: The EIA of BC, Suite 201— 3989 Henning Drive,
Burnaby, B.C., V5C 6N5**