



THE INSPECTOR

SPECIAL SHOWPLACE EDITION

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TO INFORM THE GENERAL PUBLIC



THE "MARK"



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The CSA mark on an electrical appliance indicates the product has been examined and tested by CSA and found to be in compliance with CSA requirements. The "mark" is the end result of the certification process. Only those products which meet or surpass a standard's requirements are permitted to bear the CSA mark.

Electrical equipment may also bear the acceptance label of the province of British Columbia. The provincial label indicates that the piece of equipment has been examined and found to be acceptable by the Provincial Chief Electrical Inspector, or a person authorized by him to conduct the examination.

CSA has three programs of certification processing. They are regular or full certification, Special Acceptance and Provincial Electrical Safety Special Health Care Equipment Inspection. Full certification involves the investigation of samples of a product by CSA to determine compliance with CSA standards. If products comply, a license is granted to use the mark on repetitive products.

Under full certification and Special Acceptance CSA investigates each product for compliance with CSA standards and certification. Provincial Electrical Special Medical Equipment Inspection involves the investigation of a product by CSA to determine compliance with the Provincial Special Inspection requirements. Under this program, CSA affixes the appropriate Provincial Electrical Safety labels to acceptable health care equipment.

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CANADIAN ELECTRICAL CODE
PART I

The first edition of the Canadian Electrical Code, Part I, appeared on the scene in 1927. It consisted of 139 pages, with 24 sections, 628 rules and 67 definitions. The scope was very simple, governing electrical work and equipment at potentials up to 5000 volts. 60 years later, the 15th edition consists of 539 pages, with 39 sections, over 1500 rules and 200 definitions.

The Canadian Electrical Code consists of five parts which promote the safety in the design, construction and installation of electrical equipment. Part I establishes safety standards for the installation and maintenance of electrical equipment. Part II establishes safety standards governing the construction, testing and marking of electrical equipment. Part III establishes acceptable practice for those involved in electrical utility overhead and underground systems. The remaining two parts, while equally important to their users, are of reduced concern to the average contractor.

Part I of the Code has no authority in its own right. It is written in legal form so that it may be adopted or enacted by appropriate legislation. In Canada, each Province and Territory enacts legislation adopting the CE Code Part I together with changes, or amendments, as deemed necessary by the particular Electrical Inspection Authority. Amendments to the Code are supplementary regulations that are deemed necessary by the authority.

The committee responsible for CE Code Part I is made up of 38 members. Its voluntary membership represents a broad section of the electrical industry, such as manufacturers,

contractors, inspectors, utilities and labour, to name a few. The function of the Committee is to formally consider and/or recommend all proposals or changes to the Code and to rule on interpretation requests.

Each Section of the code is handled by a sectional subcommittee, the chairman of which is a member of Part I. A subcommittee may have up to 12 members, depending on the scope of the section for which it is responsible. More than 200 volunteers are involved in the work of Part I.

The Code is not an instruction manual for untrained persons. Its principle objective is the establishment of a set of acceptable rules covering installation and maintenance of electrical equipment. Every home, office and industrial installation is required to comply with the requirements of the CSA C22.1 Part I Safety Standard for electrical installations.

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CSA does not solicit certification business. Producers make the approach to CSA. Certification is invaluable to manufacturers, installers and the consumer and results from close cooperation between them. Products bearing the "mark" can be used in safety as determined through the consensus principle.

CSA's aim is safety from fire and shock hazards. All electrical equipment should be used for the purpose for which it was designed -- not like the person who tried to cook pork chops in the toaster!

"At CSA we're part of your life."

PRESIDENT'S MESSAGE

Rick Porcina, President of the Electrical Inspectors Association, wishes to express his public thanks and sincere congratulations to those responsible for the very successful Code Seminar held March 17, especially to Vice-President Dave Fitger and to Executive Board member, Rod Gray.

A record crowd of 170 were registered for the Seminar -- the largest group ever. It was necessary to contain the numbers due to limited space, but enthusiasm was such that the Association is now considering the possibility of holding other seminars, in cooperation with the Electric

Service League and/or the Electrical Contractors Association later on in the year.

Welcome and congratulations are also extended to the members of the new Executive, elected at the Association's Annual General Meeting in February. One of the first pieces of business to be handled by the new group was arrangements for the Association's display at the Electric Showplace. Jack Muir, new Board member, who is on the staff of Burnaby Municipality, was chosen to head up the working committee for the event.

SCOPE OF INSPECTIONS

The average citizen probably knows less about what an electrical inspector actually does than he knows about almost any other job. It is a fact, too, that the majority of citizens may never have occasion to test the worth of such workers.

In truth, it is a job with many facets and it provides real variety day to day for those engaged in it.

The new inspector likely starts out with a single family residence. A basic inspection here requires that a thorough check be made of all wiring for power, light, heat, telephone, cable TV, alarms or air conditioning.

Most commercial properties in the province are subject to inspection, except for public utilities, mines and communication services. In certain public utility work, however, the inspection department is involved, usually on a request or consulting basis.

Wharves and marinas in the various municipalities and in unorganized areas come under the inspection regulations, although marine vessels themselves do not.

Inspection is required during the initial construction for all the various types of mills; pulp and paper, sawmills, manufacturing, processing, finishing, etc. After construction inspection goes on on a continuing basis under an annual permit inspection arrangement (particularly very large installations.)

Approval of all electrical materials and equipment themselves is handled by the Canadian Standards Association in conjunction with the Safety Engineering Services.

The prime object today is the safe generation, distribution and utilization of electricity. It is obvious that the utmost in very careful planning is required from the point of utilities and as part of the inspector's job, throughout the entire province.

In British Columbia a valuable and experienced work force has grown and developed in the inspection field so that the Province can now be very proud of its inspection system which makes the province one of the great areas of Canada for business or pleasure.

SAFETY - The Electrical Inspector's Contribution

Many members of the public and the electrical industry are familiar with the Electrical Inspector's role in inspecting new electrical installations.

In conducting such inspections the inspector is monitoring installations for compliance with the requirements of the Canadian Electrical Code as amended for use in British Columbia.

Electrical installations made in compliance with the code will provide an installation safe from the dangers of electric shock and fire.

The Electrical Inspector, however, is engaged in other activities that contribute to a safe electrical environment. For example,

he examines electrical equipment, including that used with machinery of all types, appliances, tools, etc., to ascertain that the equipment has been certified by an acceptable testing agency such as CSA (Canadian Standards Association), CGA (Canadian Gas Association and ULC (Underwriters' Laboratories of Canada).

Certification of such agencies ensures that the equipment has been constructed in accordance with safety standards, thereby providing the user with an assurance of safety. The inspector assists sales outlets and manufacturers by providing information regarding the various programs which are available to have equipment certified for use in British Columbia.

EDUCATION - AN IMPORTANT JOB.

Inspectors also participate in educational activities.

Seminars are presented to electrical contractors, electricians and others in the electrical industry regarding matters related to the electrical code, including British Columbia amendments and explanatory electrical bulletins. Seminars are generally presented to coincide with the introduction of a new code or additional or revised electrical bulletins during the time a code is in force. The seminars also provide an opportunity for communication between the inspectors and members of the industry on other relevant matters. Contractors and installers play the key role in ensuring safe electrical installations, but educational programs related to the interpretation of standards assist in the process of achieving safety.

Inspectors are the largest force in the instruction of students and others preparatory to writing examinations and getting certificates, both basic and advanced. Working in conjunction with certain schools presentations are made to students on home electrical safety. Professionally prepared kits are utilized in these school presentations and the work assignments associated with the program also involve the parents.

Inspectors also participate in public safety presentations and activities.

Inspectors frequently team up with other safety agencies, such as fire fighters, in activities promoting electrical and fire safety with a display and demonstration in shopping malls, home shows and other events.

JOIN US!

FIRE BIG ITEM TO INSPECTORS

One facet of the work of Electrical Engineers not well known to the general public is the assistance rendered to those who control and investigate fires.

Another little known fact is that one out of eight fires of known cause has been of electrical origin.

Most commonly the starters are such ordinary things as overloading of electrical circuits (a most common act); the use of fuses of wrong size; defective cords, plugs and appliances. Such small offenders add up to approximately 12,000 electrical fires each year and a damage bill of about 20 million dollars.

Although the basic aim of fire-fighters is to extinguish blazes to which they are called, equally important is finding the cause of the fire.

Sometimes this leads to a very long investigation involving a most extensive list of questions to be asked, as well as frequently calling in the many local experts who form the Fire Service network throughout the province.

A large and important part of this network is the list of Electrical Inspectors who render valuable help in many cases.

Causes might include such things as sparks, embers or flames emitting from electrical equipment; faulty pilot lights; short circuits; electrical wiring or fixtures. It is therefore important to maintain fire alarm systems in good working order to readily detect and respond to fires.

The Inspector must determine if an automatic, mechanical or electrical control malfunctioned; perhaps there was a mechanical or electrical part failure; or perhaps the electrical function was not properly maintained. Also included is the common problem of misuse of equipment and personal goods.

When Inspectors are called in, their work requires much more thoroughness than is usually called for. Particularly is this so when loss of life has occurred. Inspectors have been called to testify in Court on occasion.

When arson is seen to be involved, the investigation must be most intense. It is here that the experience and expertise of a good Inspector is most useful. As one man remarked, it is like being a detective.

Mr. Dave Menzies, Acting Vancouver-Fraser Fire Commissioner, in speaking recently to the members of the Association, lauded the work of the Inspectors and said they were a most important part of the team work.



APPROVAL

Rule 2-024 of the Code requires that electrical equipment used in electrical installations be approved. Rule 2-100(1)(1) requires that the equipment be marked with "evidence of approval."

The definition of the term "approved" in the Canadian Electrical Code has been amended for use in British Columbia. The amendment requires that equipment which is not certified and labelled under clause (a) be approved under clause (b).

Special approval under clause (b) is not intended to replace CSA or CGA certification; but will only be considered for special or individual items such as:

- (a) Custom-built equipment, of which only one or two units will ever be built, and which have been designed to meet the requirements of a specific installation.
- (b) Prototype equipment representing a pilot production run for functional testing or experimental installation.
- (c) Equipment imported as settlers' effects.
- (d) Special equipment of standardized design not obtainable with CSA certification and for which no acceptable CSA certified substitute is available.
- (e) Other types of equipment, the acceptability of which has been determined on the merit of the individual case.