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## **ELECTRICAL PLAN REVIEW**

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The intent of this bulletin is to provide clarification for the electrical plan review process and requirements.

### **BACKGROUND**

The Canadian Electrical Code, Part I (CE Code) requires owners or their agents to submit plans and specifications for acceptance by the inspection department before work is commenced. CE Code Rule 2-014 contains the requirements for the submittal of plans to the City of Vancouver for electrical plan review. Section 5.5 of the Vancouver Electrical By-law No. 5563 (VEBL) mandates that as a condition precedent to the issuance of any permit, the City Electrician may require that any plans, specifications or drawings required by this By-law be approved by the City Electrician.

### **BUILDING PERMIT SUBMISSION**

Where the submission of electrical plans is required during the application for a building permit, an applicant for a building permit needs to provide three sets of sealed and signed electrical plans together with the corresponding Letter of Assurance (Schedule B) and a completed Electrical Plan Examiner's Transmittal Form (see attachment of this bulletin). The existing City process of electrical plan review is linked to the corresponding building permit process for projects involving both building and electrical work; refer to Bulletin 2018-004-BU/EL for the requirements of building and electrical permits submission.

### **ELECTRICAL PERMIT SUBMISSION**

Two sets of complete electrical plans and specifications intended for construction purposes shall be submitted by an electrical contractor to Trades Permits Counter of the Service Centre for application intake for the electrical permit. These plans shall be sealed and signed by the Registered Professional of Record. Where the building permit is under the CP program, plans and specifications shall be provided with the CP stamp as well.

### **ELECTRICAL PERMIT, PLAN REVIEW PROCESS AND REQUIREMENTS**

Where the submitted plans have not yet been approved, the City Electrician may issue a permit separate from the application for a main permit for a limited period of time described as an "interim permit" subject to such terms and conditions as deemed appropriate; the fee for an interim permit may be based on an installation value \$1,000, and the fee for the main permit shall be based on the cost of work including materials and labour as set out in Schedule A of the VEBL.

During the permit application intake and review process, in the case of any circumstance where the City Electrician considers it is necessary or desirable, the City Electrician may allow an electrical contractor to pay the following fees; when the building permit for a site development/project issuing with its spin-off building permits for the construction of a complex comprised of multiple buildings above an underground parking:

- a) the fee for the main electrical permit related to the main/site building permit to be based on the total installation value including materials and labour for the entire complex/project, and
- b) the fee for each electrical permit related to the spin-off building permits to be based on \$250; as set out in Schedule A of the VEBL.

In cases of multi-staged CP based construction projects where complete electrical drawings have not been submitted for a full electrical plan review, an electrical contractor may apply for an interim permit in addition to the main permit to perform a limited scope of work; such an application for an interim permit shall be accompanied with the necessary plans and documents corresponding to the scope of the intended work, the referenced plans and documents shall be signed and sealed by the Registered Professional of Record.

Upon completion of the electrical plan review, one set of drawings stamped by the electrical plan checker will be returned to the permit holder, these drawings are to be used as field construction drawings and shall be kept on site and made available for review by the City’s electrical inspection staff, the second set to be used by the district electrical inspector retained for City records. If the electrical contractor deviates from the accepted drawings during the installation, a project change notice from the responsible Registered Professional shall be submitted to the City by the electrical contractor along with the applicable re-inspection fee. All essential deviations (change of electrical characteristics of equipment; etc.) must be accompanied by two new sets of drawings submitted to City. Resubmission of the amended drawings for further evaluation by electrical plan checker is subject to the fees based on time actually spent on the additional plan review as set out in Schedule A of the VEBL.

**Requirements for plans submittal where the electrical installation involves (General):**

- 1. Wiring installations of new public buildings, industrial establishments, factories, and other new buildings in which public safety is involved (CE Code Rule 2-014, Section 5.5 of VEBL);
- 2. High voltage installation - any voltage exceeding 750V (Bulletin 2005-004-EL, Bulletin 2000-048-EL);
- 3. Installation of electrical equipment in hazardous locations (Bulletin 2000-026-EL);
- 4. Installation of electrical wiring and equipment within patient care areas of health care facilities (Bulletin 2008-001-EL);
- 5. Modification or upgrade of fire alarm system (FAS), or installation of new FAS or DDRS in existing building triggered by automatic elevators applied with Firefighters’ Emergency Operation that Phase I Emergency Recall Operation initiated by fire detectors (Bulletin 2018-004-BU/EL);
- 6. Installation of service or feeder – 3  $\emptyset \geq 800$  Amp and 1  $\emptyset \geq 800$  Amp;
- 7. Installation of transformers equal or greater than 225 kVA;
- 8. Installation of solar photovoltaic system with an equipment rating in excess of 10kW;
- 9. Installation of emergency electrical power supply system, power-generating equipment, renewable energy system; storage batteries; etc.;
- 10. Installation of electric vehicle charging systems, electric vehicle energy management system; and
- 11. Other installations as may be prescribed by the City Electrician.

(Original signed by)

(Original signed by)

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P. Ryan, M.Sc., P.Eng.  
Chief Building Official  
Director, Building Code and Policy

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W. White  
Deputy City Electrician  
Manager, Trades Inspection

## ELECTRICAL PLAN EXAMINER'S TRANSMITTAL FORM

(To be completed by a CP / Electrical Engineer and submitted to the Electrical Plan Examiner with Electrical Plans)

Address: \_\_\_\_\_ Building Permit No: \_\_\_\_\_

Major Occupancy Classification: \_\_\_\_\_ Construction Article: \_\_\_\_\_

New Construction:  Addition:  Alteration:

Please check the appropriate boxes accordingly.

Attachment to Bulletin 2001-008 BU/EL

Yes <input type="checkbox"/>	No <input type="checkbox"/>		Schedule B provided - Subsection 2.2.7. Division C of the VBBL
Yes <input type="checkbox"/>	No <input type="checkbox"/>		Building is required to be of non-combustible construction - VBBL 3.2.2.
Yes <input type="checkbox"/>	No <input type="checkbox"/>		High building - VBBL 3.2.6.
Yes <input type="checkbox"/>	No <input type="checkbox"/>		Building on Designated Flood Plain - Needs to protect electrical equipment - VBBL 2.2.9.
Yes <input type="checkbox"/>	No <input type="checkbox"/>		Electrical equipment & wiring in plenum spaces - VBBL 3.6.4.3.; VBBL 3.1.4. / 3.1.5.
Yes <input type="checkbox"/>	No <input type="checkbox"/>		Smoke alarms are required - VBBL 3.2.4.21.
Yes <input type="checkbox"/>	No <input type="checkbox"/>		Permanently connected carbon monoxide alarms are required - VBBL 6.2.4.1.
Yes <input type="checkbox"/>	No <input type="checkbox"/>		Fire alarm system is required - VBBL 3.2.4.
Yes <input type="checkbox"/>	No <input type="checkbox"/>		2-stage fire alarm system is provided - VBBL 3.2.4.3.
Yes <input type="checkbox"/>	No <input type="checkbox"/>		Voice communication is required - VBBL 3.2.4.22. and 3.2.6.8.
Yes <input type="checkbox"/>	No <input type="checkbox"/>		Signal to fire department is required - VBBL 3.2.4.8.
Yes <input type="checkbox"/>	No <input type="checkbox"/>		Hold-open devices <input type="checkbox"/> / electromagnetic door locks <input type="checkbox"/> - VBBL 3.1.8.12. / 3.4.6.16.
Yes <input type="checkbox"/>	No <input type="checkbox"/>		Commercial kitchen-connection to fire alarm system-NFPA 96-Bulletin 2007-005. VBBL 3.2.4.9.2)e)
Yes <input type="checkbox"/>	No <input type="checkbox"/>		Strobe lights / visual signals - are provided - VBBL 3.2.4.20.
Yes <input type="checkbox"/>	No <input type="checkbox"/>		Manual switches for operation of smoke control & smoke venting equipment at the CACF - VBBL 3.2.5.19.(1); 3.2.6.7. / 3.2.6.2.(5)
Yes <input type="checkbox"/>	No <input type="checkbox"/>		Emergency Lighting is required - VBBL 3.2.7.3.
Yes <input type="checkbox"/>	No <input type="checkbox"/>		Exit signs are required - VBBL 3.4.5.1.
Yes <input type="checkbox"/>	No <input type="checkbox"/>		Emergency power supply - Required duration: 30 min <input type="checkbox"/> 1 h <input type="checkbox"/> 2 h <input type="checkbox"/>
Yes <input type="checkbox"/>	No <input type="checkbox"/>		Protection of emergency conductors is required - VBBL 3.2.7.10.
Yes <input type="checkbox"/>	No <input type="checkbox"/>		Emergency generator is required - VBBL 3.2.7.9. / CE Code Rule 24-306
Yes <input type="checkbox"/>	No <input type="checkbox"/>		By-pass isolation in a transfer switch is required - CSA C282
Yes <input type="checkbox"/>	No <input type="checkbox"/>		Sprinklers are required - VBBL 3.2.5.12
Yes <input type="checkbox"/>	No <input type="checkbox"/>		Heat trace of sprinkler system is required - Bulletin 2000-016- EL/PL/SP
Yes <input type="checkbox"/>	No <input type="checkbox"/>		Standpipe system required - separate trouble signal is provided on annunciator - VBBL 3.2.4.10.(2)
Yes <input type="checkbox"/>	No <input type="checkbox"/>		VBBL Alternative Solution related to the above systems
Yes <input type="checkbox"/>	No <input type="checkbox"/>		Electric motor-driven fire pump is required - VBBL 3.2.5.18.(1)
Yes <input type="checkbox"/>	No <input type="checkbox"/>		Series rated system conforming to CE Code Rule 14-014 is utilized
Yes <input type="checkbox"/>	No <input type="checkbox"/>		Available fault current calculation is provided - CE Code 14-012
Yes <input type="checkbox"/>	No <input type="checkbox"/>		HV installation <input type="checkbox"/> Installation in HC facility <input type="checkbox"/> Installation in hazardous location <input type="checkbox"/>
Yes <input type="checkbox"/>	No <input type="checkbox"/>		Pre-wired outlet boxes for enhanced accessibility - VBBL 3.8.2.27.(5); Bulletin 2002-006-BU/EL
Yes <input type="checkbox"/>	No <input type="checkbox"/>		Required parking spaces are provided with electric vehicle charging systems (EVSE, EVEMS) - VBBL 10.3. Parking By-law 4.14. (VEBL) Electrical By-law Section 7.3.7. CE Code Section 86.
Yes <input type="checkbox"/>	No <input type="checkbox"/>		Dwelling units are designed to conform to VBBL 3.8.5.7. - outlets, switches and controls.
Yes <input type="checkbox"/>	No <input type="checkbox"/>		Dwelling units are provided with special outlets boxes and cover plates specifically designed and wired for strobe lights - VBBL 3.8.2.27.(3), 3.2.4.20.(7) & (8)
Yes <input type="checkbox"/>	No <input type="checkbox"/>		Building is designed to conform to VBBL 10.2.2.10.-Lighting (Energy Efficiency VEBL Section 7.3.6.)
Yes <input type="checkbox"/>	No <input type="checkbox"/>		Building is designed to conform to - VBBL 3.8.3.21.(1) - Electrical Controls
Yes <input type="checkbox"/>	No <input type="checkbox"/>		Building is electrically designed to conform to ASHRAE 90.1, VBBL 10.2.
Yes <input type="checkbox"/>	No <input type="checkbox"/>		Building is electrically designed to conform to VBBL 3.2.5.5.(3) - paths of travel for firefighters
Yes <input type="checkbox"/>	No <input type="checkbox"/>		Life safety systems and fire protection systems conform with the code consultant's report
Yes <input type="checkbox"/>	No <input type="checkbox"/>		Consulted with BC Hydro for building construction in proximity to the existing BC Hydro electrical works (O/H HV conductors, transformers). Bulletin 2015-002-EL (Item 6.6 SCHEDULE B)
Yes <input type="checkbox"/>	No <input type="checkbox"/>		Owner is advised that when the construction is completed, an annual permit must be obtained in conformance with Section 5.14 of the Vancouver Electrical By-law No.5563 for:
Yes <input type="checkbox"/>	No <input type="checkbox"/>		(a) the maintenance of existing operating electrical equipment;
Yes <input type="checkbox"/>	No <input type="checkbox"/>		(b) a service supply or power supply to a building or premises, where either or both supply ratings in combination exceed 500 kVA;
Yes <input type="checkbox"/>	No <input type="checkbox"/>		(c) any service supply or power supply to the electrical equipment that is greater than 750 volts;
Yes <input type="checkbox"/>	No <input type="checkbox"/>		(d) any existing electrical equipment maintained for emergency service.

(Affix Professional Stamp Here.)

CP/Electrical Engineer: \_\_\_\_\_ Date: \_\_\_\_\_