

HIGH VOLTAGE SERVICE CONNECTION INSPECTION WORKSHEET

Note: Any personal information collected is handled in accordance with the British Columbia *Freedom and Protection of Privacy Act*. If you have questions about the collection, use, or disclosure of this information, contact the Records, Information and Privacy Analyst for the Technical Safety BC at 1-866-566-7233.

This inspection worksheet is supplemental to the inspection request required by Electrical Safety Regulation Section 19.

Note 1: All items below are to be completed by the permit holder.

Note 2: Submit the Inspection worksheet and Electrical Contractor Authorization & Declaration Of Compliance Electrical Inspection Request Form 206 to Technical Safety BC, or the local authority having jurisdiction (AHJ) prior to service connection.

Note 3: Inspection worksheet items not applicable to the installation should be marked N/A in the comments section with explanation.

Note 4: Use the Comment section to provide detail and clarity for each of the items.

Note 5: Designers should not be using Utility Standards for the design of privately owned equipment unless written authorization from the utility is provided with the plans and specifications.

Note 6: Designers should consult the BC Electrical Code, applicable Directives, Information Bulletins, Safety Orders, C22.3 NO. 1-15 - Overhead systems, C22.3 NO. 7-15 - Underground systems and other related standards for privately owned system design. When other related standards are used, a copy of the standard or portion thereof, may be requested by the inspection department to assist in the review.

Note 7: Designers should also consult with the local municipal authorities for any additional civil, building, plumbing, etc. requirements.

Note 8: Variances are required when the construction of the system deviates from the BC Electrical Code.

Note 9: Additional information such as directives, information bulletins, engineering plans, etc. should be referenced when completing this inspection worksheet. Only BC Electrical Code Rules are referenced in this inspection worksheet.

Note 10: Additional documentation such as test reports, may be required if requested by the (AHJ).

A. Applicant Information

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| Electrical Contractor: | Licence No.: |
| Field Safety Representative: | FSR No.: |
| Professional Engineer of record (name): | Registration #: |

B. Site Information

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|---|---------------------------|---|
| Site Address: | | Permit No.: (used for the utility connection) |
| | | Variance No.: (if applicable) |
| System: | Primary Overcurrent Size: | Supply Feed Method: |
| Primary Volts (phase to phase) (phase to ground - single phase): | Available Fault Current: | Phase: |

C. High Voltage Checklist

| ✓ | Item | Inspection Activity – General Requirements | Reference | Comments |
|---|------|---|---------------------------|----------|
| System Attributes, Plans and Specifications, Documentation | | | | |
| <input type="checkbox"/> | 1. | The scope of work stated on the permit is the same as the electrical equipment installation or intended installation if not complete at time of inspection request. | SSGR, S. 13 | |
| <input type="checkbox"/> | 2. | System attributes, listed on the permit such as Volts, Amps, Phases, kVA, etc. are the same as installed. | SSGR S. 13 | |
| <input type="checkbox"/> | 3. | Plans and Specifications, (permit issuance / plan acceptance), have been submitted. | 2-014, | |
| <input type="checkbox"/> | 4. | Permit holder has notified the building, property, or asset owner of the obligation to obtain an operating permit. Provide evidence such as operating permit number, email notification or copy of application in comment field. | SSGR, S. 18. | |
| <input type="checkbox"/> | 5. | “As built or as constructed” plans and specifications (drawings) are completed or in progress to be completed and copies provided to the building, property or asset holder. | Recommended (informative) | |
| <input type="checkbox"/> | 6. | Verify that installation has been made in accordance with the manufacturer's installation instructions including marking of materials and equipment. | 2-024 | |
| <input type="checkbox"/> | 7. | Complete assemblies are approved for their use. | 2-024, | |
| <input type="checkbox"/> | 8. | Conductor ampacities are determined in accordance with Section 4 of the BC Electrical Code, or by engineering standards with variance. Cables sized accordingly. | 4-004 | |
| Tests and Studies: All reports must be completed with acceptable results and be in compliance with applicable standards. Reports with unacceptable or incomplete results shall not be identified as complete. Reports should be provided to the equipment owner upon completion. | | | | |
| <input type="checkbox"/> | 9. | Station ground resistance, ground potential rise (GPR) tests and report completed. (Station Ground electrodes installed as per rule 36-302 for single phase pole mounted systems rated at 15kV or less, measured line to line, and 150kVA or less are generally considered to be acceptable without additional testing.) *consult with your local Safety Officer. | 36-304, 36-302 | |
| <input type="checkbox"/> | 10. | All non-current-carrying metal parts of equipment and structures forming part of the station are grounded to the station ground electrode in such a manner that no build-up of a dangerous potential difference between the equipment or structures and nearby earth. Tests and reports as required by rule are complete. | 36-308 | |

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| <input type="checkbox"/> | 11. | Fault current coordination study completed. | 36-202 | |
| <input type="checkbox"/> | 12. | Protective relaying study completed. | 36-206 | |
| <input type="checkbox"/> | 13. | Service switch or breaker test report completed. | 36-206 | |
| <input type="checkbox"/> | 14. | Protective relaying test report. | 36-200, 36-202 | |
| <input type="checkbox"/> | 15. | Unapproved components acceptance reports including test results have been completed. See variance requirements. | ESR S. 21, Accepted Variance | |
| Markings | | | | |
| <input type="checkbox"/> | 16. | Warnings and caution markings provided on all entrances, equipment locations, etc. | 2-102, 36-006 | |
| <input type="checkbox"/> | 17. | One-Line Drawing posted. | 36-006 | |
| <input type="checkbox"/> | 18. | Cables, cable trays, marked every 10 meters. | 36-006 | |
| <input type="checkbox"/> | 19. | Station fencing marked. | 36-006 | |
| <input type="checkbox"/> | 20. | The location of conductors and cables encased or embedded in concrete is permanently marked every 3 meters. | 36-100(4) | |
| Equipment Installation | | | | |
| <input type="checkbox"/> | 21. | Wire, cable, component parts, etc. are either approved or have been accepted under a variance. | ESR, s. 21 2-024, 2-100 | |
| <input type="checkbox"/> | 22. | Service equipment is located in accordance with the utility requirements including ability to be locked out and isolated. | 2-304, 14-010, 36-200, 36-214, 36-208 | |
| <input type="checkbox"/> | 23. | All fire stop partitions installed, all cables and raceways are flame spread rated as required for their location in accordance with the BC Building Code or local building legislation.. | 2-128, 2-130, 2-132 | |
| <input type="checkbox"/> | 24. | Equipment is securely mounted and adequate ventilation space for equipment provided. | 2-114, 2-116, 2-122, 2-124, 2-320, 26-004, 26-008 | |
| <input type="checkbox"/> | 25. | Adequate lighting, including emergency lighting and exit lighting, has been provided for. | 2-316, 46-300, 46-400, 30-314 | |
| <input type="checkbox"/> | 26. | Non-combustible hoods and shields are installed to protect electrical equipment in sprinklered rooms. | 26-008 | |
| <input type="checkbox"/> | 27. | Working space with secure footing is provided and maintained around electrical equipment including pole-mounted | 2-308 | |

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| | | switches, outdoor equipment, vaults and electrical rooms. | | |
| <input type="checkbox"/> | 28. | Rooms or spaces containing electrical equipment have unobstructed means of egress, such that it is possible to leave the room or space without passing any failure point, or passing within 1.5m of the equipment. | 2-310 | |
| <input type="checkbox"/> | 29. | Broken or damaged parts and contamination by foreign materials are not present. | 2-022, 2-124 | |
| <input type="checkbox"/> | 30. | Unused openings in equipment have been effectively closed. | 12-3002, 12-3024 | |
| <input type="checkbox"/> | 31. | The rating and capacity of the overcurrent devices have been set and coordinated. | 36-202, | |
| <input type="checkbox"/> | 32. | Overhead clearances to energized equipment and buildings, adjacent structures including protuberances, are maintained and exposed conductors are supported, spaced and guarded by elevation or suitable barriers. | 36-106, 36-108, 36-110, 36-212 , C22.3 No.1-15 | |
| <input type="checkbox"/> | 33. | Underground cables and ducts are spaced as required to as per the ampacity calculations, and meet utility standards for connection. | 4-004 | |
| <input type="checkbox"/> | 34. | Underground raceways including pull pits are adequately drained in accordance with the applicable jurisdiction . | 6-300 | |
| <input type="checkbox"/> | 35. | Underground raceways are provided with seals when entering the building. | 6-300 | |
| <input type="checkbox"/> | 36. | Dielectric liquid filled equipment installed indoors is installed in a vault, service room, electrical room or provided with containment as permitted. | 26-012, 26-246 | |
| <input type="checkbox"/> | 37. | Dielectric-filled equipment installed outdoors has the necessary containment, and is located in an acceptable location with barriers or fencing. | 26-014 | |
| <input type="checkbox"/> | 38. | Transformers located outdoors are away from combustible surfaces, material, doors, windows, or ventilation openings. | 26-240, 26-242, 26-244 | |
| <input type="checkbox"/> | 39. | Unused openings in equipment have been effectively closed. | 12-3002, 12-3024 | |
| <input type="checkbox"/> | 40. | Over-current protection is properly sized for each transformer. | 26-252, 26-254 | |
| <input type="checkbox"/> | 41. | Poles, cross-arms, brackets, insulators, guys and anchors, secured and supported with clearances as required. | 2-024, C22.3 No. 1-15 | |
| Grounding and Bonding | | | | |
| <input type="checkbox"/> | 42. | Station ground electrode(s) installed. | 36-302 | |

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| <input type="checkbox"/> | 43. | Bonding and grounding conductors are copper, or meet the requirements of 36-300(2) (supporting documentation required). | 36-300 | |
| <input type="checkbox"/> | 44. | All metal structures, equipment, and items forming part of a station are grounded. | 36-308 | |
| <input type="checkbox"/> | 45. | Switch handle and gradient control mat installed, level surface, accessible, and grounded to station ground in 2 locations using minimum 2/0 AWG copper. | 36-310 | |
| <input type="checkbox"/> | 46. | Utility owned equipment located on the load side of the building, property or asset holder's disconnecting means such as reclosers, metering equipment, accessible from ground shall be grounded and bonded. | C22.3 No. 7-15, C22.3 No.1-15, 36-308 | |
| <input type="checkbox"/> | 47. | Exposed metal in vaults bonded to ground. | 36-308 | |
| <input type="checkbox"/> | 48. | Unit substation enclosure bonded to ground. | 36-308 | |
| <input type="checkbox"/> | 49. | Metallic fencing, gates, posts and conductive surfaces installed within the station are grounded and bonded to the station ground and meet utility requirements. | 36-312 | |

D. Declaration

Checking this box and submitting this form to Technical Safety BC **via email** constitutes your authorization. This has the same effect as submitting a handwritten signature.

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| Signature: | Date: |
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