

## HOW TO GET A CNG REFUELLING STATION APPROVED

# British Columbia

### What You Need to Know

So you are interested in switching your fleet to compressed natural gas (CNG)? As you start down this road, you will need to consider the process for approval early on. Whether you decide to work with an experienced engineering firm or you enter into a contract for a turnkey station, there are steps to be aware of in order to get a CNG station approved. At the beginning of the planning process, start by contacting your local natural gas utility to confirm natural gas supply and available pressure.



The CNG Station Approval Checklist on the next page outlines the steps involved in getting a station approved in British Columbia. The Reference Table on the last two pages provides extra detail on process, review, inspection, and other requirements.



CNG station installation in British Columbia is regulated by the BC Safety Authority (BCSA) and by local municipalities. The BCSA oversees fuel safety and pressure vessels, while municipalities check for compliance with local by-laws. No federal approval is required, unless you want to allow the general public to refuel at your station. If this is the case, Measurement Canada will need to be involved.



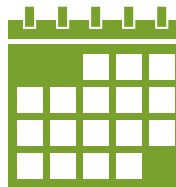
The primary code that applies is CSA 108 – Natural Gas Fueling Stations Installation. This Code applies to public and private CNG stations that offer fast fill capabilities, time fill capabilities, or both.



Public stations can refuel to a settled pressure of 3000 psig. Private stations can refuel to a settled pressure of 3600 psig. Work is underway to allow all Canadian stations to refuel to a settled pressure of 3600 psig.



Knowledgeable design firms, installation firms, and equipment suppliers can help with station options, approvals, and permits.



The total timeline to build a new CNG station will vary, but it is recommended that you plan for a minimum six to nine months based on equipment lead time as well as time for review and approval.

## CNG STATION APPROVAL CHECKLIST

### 1. Provide notice and review process.

#### Gas Utility Level

- Contact your local natural gas utility to confirm natural gas supply and available pressure.

#### Municipal Level

- Meet with local municipal officials to inform them of the proposed project and to review the approval and permitting process.

#### Provincial Level

- Contact BCSA to inform them of the proposed project and to review the approval and permitting process.

### 2. Submit supporting documentation and obtain approvals and permits for construction.

#### Municipal Level

- Refer to the Reference Table on the following page for a comprehensive list of municipal Authorities Having Jurisdiction (AHJ) that may be involved in approving your project.
- Obtain a letter of compliance from the appropriate municipal authority.
- The topics of interest to the local municipality will include some or all of the following:
  - Legal
  - Land use
  - Site services
  - Environmental
  - Other
- Acquire municipal building permit for station construction.

#### Provincial Level

- It is recommended that this step be completed in parallel with Step 1, as the tasks listed are codependent.
- Refer to the Reference Table on the following page for a comprehensive list of provincial AHJs that may be involved in approving your project.
- Ensure that your gas contractor's required licences are in order and in place prior to beginning work on the facility.

*NOTE: The following describes the process required by BCSA. Similar processes may be required by the other AHJs listed in the Reference Table.*

- Submit an application for a gas fitter certificate of qualification. Submission requirements and additional detail can be found in B.C. Reg. 103/2004.
- Submit an application for an appliance service certificate of qualification. Submission requirements and additional detail can be found in B.C. Reg. 103/2004.
- Submit an application for a gas piping certificate of qualification. Submission requirements and additional detail can be found in B.C. Reg. 103/2004.
- Prepare site plan drawings that identify suppliers, equipment, and details of equipment interconnections. These drawings will include:
  - Site P&ID with all pipe sizes and pressure ratings shown; and
  - Detailed Bills of Materials indicating all component specifications and ratings, provincial CRNs, material specifications and any necessary third-party certification for the equipment (including CNG storage vessels).
- Contact equipment manufacturers (e.g., CNG dryer, CNG compressor package, CNG dispensing equipment, and other pressure retaining equipment) for supporting information, such as:
  - Equipment P&IDs with all pipe sizes and pressure ratings shown; and
  - Detailed Bills of Materials indicating all component specifications and ratings, provincial CRNs, material specifications, and any necessary third-party certification for the equipment (including CNG storage vessels).
- In order to obtain an installation permit, the following documentation must be submitted to the BCSA:
  - Site plans indicating setbacks and separations consistent with CSA B108 and any additional provincial regulations;
  - Narrative describing station sizing, equipment, and operating conditions;
  - Site and equipment P&IDs with all pipe sizes and pressure ratings shown;
  - Detailed Bills of Materials indicating all component specifications and ratings, provincial CRNs, and any necessary third-party certifications for the equipment;
  - Hazardous locations diagram; and
  - Acquire electrical approval on each piece of major equipment from a third-party inspection agency or by "special inspection" by your Municipal Electrical Inspector by submitting the following documentation:
    - Single line electrical schematics
    - Site inspection report

**Federal Level**

- If you will be offering refuelling capabilities to the general public, you will need to have your dispenser certified by Measurement Canada.

**3. Construct station and develop a plan for inspections.**

- Begin site construction once the station design has been approved. The BCSA will specify certain hold and inspection points, such as the pressure testing of underground pipe with the trenches open.
- Once construction is substantially complete, obtain approval from the necessary AHJs to energize the equipment and introduce gas to the station. The BCSA will also ask that you provide proof of electrical approval and pressure vessel CRNs at this stage.
- Conduct commissioning and invite the appropriate AHJs to attend.
- Once all equipment has been commissioned and tested, B.C. Reg. 103/2004 requires that you immediately complete a notification of completion and an installation/alteration form and submit this information along with a request for a final site inspection to the BCSA and to any other necessary AHJs identified through this process.

**4. Obtain operating permit and develop a plan for re-certification.**

- Upon successful completion of all final inspections, ensure that all approvals, permits, certificates, and registrations (as applicable) are in order and in place. As a minimum, the local municipality will issue an occupancy permit and the BCSA will issue an operating permit.
- Review and understand the requirements for periodic renewals of the above listed document(s).

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### CNG STATION APPROVAL REFERENCE TABLE

#### How to Use this Reference Table

The information given in this Reference Table is intended to provide extra detail to supplement the checklist on the previous page. Each step on the previous page is further broken down into gas utility, municipal, provincial, and federal level tasks. The relevant Authority Having Jurisdiction (AHJ), guiding document, required documentation, nature of approval, and the documents one receives upon obtaining approval is then provided for each task. Additional approvals beyond those outlined below may be required, depending on the circumstances.

Item		Authority	Guiding Document	Documents to Submit	Nature of Approval	Approval Documents
<b>Step 1: Provide notice and review process.</b>						
Gas Utility						
101	Contact your local natural gas utility to confirm natural gas supply and available pressure.	Local natural gas utility	N/A	Verbal/e-mail request.	N/A	Confirmation of receipt.
Municipal Level						
111	Inform the AHJ of the proposed project and review the approval and permitting process.	Local municipal officials	N/A	Letter.	N/A	Confirmation of receipt.
Provincial Level						
121	Inform the AHJ of the proposed project and review the approval and permitting process.	BCSA	N/A	Letter.	N/A	Confirmation of receipt.
Federal Level						
131	N/A					
<b>Step 2: Submit supporting documentation and obtain approvals and permits for construction.</b>						
Municipal Level						
211	Obtain a letter of compliance from the appropriate AHJ for submission to the BCSA.	Local municipal officials	Documents pertaining to the following topics: legal and land use.	As required by the BCSA.	By-law review.	Letter signed by the Chief Building Official or designate.

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Item		Authority	Guiding Document	Documents to Submit	Nature of Approval	Approval Documents
212	Compile legal information, which may include none to all of the following: surveys, easements, and rights of way.	Local municipal officials	Any pertinent legal documents.	As required by the municipality.	By-law review.	Building permits and others, as required by the municipality.
213	Compile land use information, which may include none to all of the following: official plan, zoning by-laws (i.e., re-zoning or minor variance applications), site plan control, building permits, and sign permits.	Local municipal officials	Any pertinent land use documents.	As required by the municipality.	By-law review.	Building permits and others, as required by the municipality.
214	Compile site services information, which may include none to all of the following: water, storm water, sanitary sewer, and electrical services.	Local municipal officials	Any pertinent site services documents.	As required by the municipality.	By-law review.	Building permits and others, as required by the municipality.
215	Compile environmental information, which may include none to all of the following: conservation authority, natural environment designation, site assessment (Phase I, Phase II), and agricultural MDS.	Local municipal officials	Any pertinent environmental documents.	As required by the municipality.	By-law review.	Building permits and others, as required by the municipality.
216	Compile any other necessary information, which may include none to all of the following: Ontario Heritage	Local municipal officials	Any pertinent documents.	As required by the municipality.	By-law review.	Building permits and others, as required by the municipality.

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	Item	Authority	Guiding Document	Documents to Submit	Nature of Approval	Approval Documents
	designation, local cultural designation, archaeological site designation, railway rights of way, First Nations consultation, and mining claims.					
<b>Provincial Level</b>						
221	Station Construction Contractor Certification.	BCSA	Primary regulatory instruments include: B.C. Reg. 103/2004.	Proof that the applicant has successfully completed any necessary training and has the required experience.	Document review by BCSA.	Gas Contractor Licence, Gas Piping Qualification.
222	Station Maintenance Contractor Certification.	BCSA	Primary regulatory instruments include: B.C. Reg. 103/2004.	Proof that the applicant has successfully completed any necessary training and has the required experience.	Document review by BCSA.	Gas Fitter Qualification, Appliance Service Qualification.
223	Prepare site plan drawings that identify suppliers, equipment, and details of equipment interconnections.	BCSA	Primary regulatory instruments include: B.C. Reg. 103/2004. Applicable codes include CSA B108, CSA B51, and CSA B149.	P&IDs and detailed Bills of Materials for the overall site that have been stamped by a P. Eng. (including CRNs as applicable, ratings, and material specifications), site plan drawings indicating setbacks, a narrative describing station sizing, equipment selection, and operating	Document review by BCSA.	Letter of approval/ installation permit?

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	Item	Authority	Guiding Document	Documents to Submit	Nature of Approval	Approval Documents
				conditions, and hazardous locations diagrams.		
224	Acquire detailed drawings for major pieces of equipment from manufacturers.	BCSA	Primary regulatory instruments include: B.C. Reg. 103/2004. Applicable codes include CSA B108, CSA B51, and CSA B149.	P&IDs and detailed Bills of Materials for each major piece of equipment (including CRNs as applicable, ratings, and material specifications for individual components). These must be submitted as part of the overall site approval, per the above.	Part of item 223 above.	Part of item 223 above.
225	Per BCSA's requirements, obtain electrical approval of the proposed design.	BCSA	Applicable codes include: Canadian Electrical Code (CSA C22.1).	Single line schematics and a site inspection report.	Document review.	Letter of compliance.
<b>Federal Level</b>						
231	Dispenser must be certified if fuel retailing will be offered.	Measurement Canada	C.R.C., c.1605.	None at this time. However, a dispenser capable of meeting Measurement Canada requirements must be specified.	N/A	N/A
<b>Step 3: Construct station and develop plan for inspections.</b>						
<b>Municipal Level</b>						
311	Arrange for any interim and final building and site inspections that might be required.	Local municipal officials/utilities	As required by the municipality.	As required by the municipality.	Field inspection.	Interim and final inspection reports/ approvals.
<b>Provincial Level</b>						
321	Conduct interim inspections and obtain	BCSA	Approval letter obtained in Step 2.	Field test report(s).	Field inspection.	Verbal approval.

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Item		Authority	Guiding Document	Documents to Submit	Nature of Approval	Approval Documents
	approval to energize equipment and to introduce gas to the system.					
322	Obtain electrical approval of the facility.	BCSA	Applicable codes include: Canadian Electrical Code (CSA C22.1).	N/A	Field inspection.	Certification sticker/letter.
323	Conduct final inspection.	BCSA	{Insert CSR}	N/A	Field inspection.	Letter of approval.
<b>Federal Level</b>						
331	Have dispenser certified if fuel retailing will be offered.	Measurement Canada	C.R.C., c.1605.	Verbal/e-mail request.	Field inspection.	Certification sticker applied to dispenser.
<b>Step 4: Obtain and maintain operating permits and licences.</b>						
<b>Municipal Level</b>						
411	Final approval if building permit was required.	Local municipal officials	Building permit.	As required by building permit.	Field inspection.	Occupancy permit.
<b>Provincial Level</b>						
421	Obtain a Licence to Operate the facility.	BCSA	Primary regulatory instruments include: B.C. Reg. 103/2004. Applicable codes include CSA B108, CSA B51, and CSA B149.	{Insert list of documents}	{Insert method}	{Insert document type}
<b>Federal Level</b>						
431	N/A					

### NOTES:

- Depending on the type of business, additional licences may be required.
- Additional approvals and assessments may also be required. For example, these might include a Noise Screening Assessment and/or a Pre-Start Health and Safety Review (PSR). It is recommended that you identify these additional requirements during your initial conversation with the BCSA, and your local municipal officials.