

CNG STATION APPROVAL CHECKLIST

1. Review process & secure permits

- Meet with the BCSA and the local municipality to inform them of the proposed project and to review the approval and permitting process.
- Acquire municipal building permit for station construction.
- Acquire permit from the BCSA for CNG station design and construction.

Note: The regulation and approval of: (a) fuels; and (b) pressure vessels may reside in different groups within the BCSA.

2. Submit documents & get approvals

- Contact equipment manufacturers (e.g. CNG dryer, CNG compressor package, CNG dispensing equipment, other pressure retaining equipment) to provide:
 - P&IDs with all pipe sizes and pressure ratings shown as well as detailed Bills of Material indicating all component specifications and provincial CRNs OR third-party certification for the equipment
 - CRNs for CNG storage vessels

Note: This information may be requested by the BCSA or it may be the responsibility of you, your agent, or the equipment manufacturer to submit without being requested. This information will be reviewed by the BCSA including the BCSA-Boilers Branch.

- Submit the following documentation to the BCSA:
 - Site plans indicating setbacks and separations consistent with CSA B108 and any additional provincial regulations
 - Narrative description of the station size, equipment to be installed and operation equipment
 - Installation Piping and Instrumentation Diagrams (P&ID) with all pipe sizes and pressure ratings shown as well as with detailed Bills of Material provided that

indicate all component specifications and provincial CRNs. Check Section 204 of the Reference Table on page 3 for any exemptions that may apply.

- Hazardous locations diagram
- Single line electrical schematics

- Acquire electrical approval on each piece of major equipment from a third-party inspection agency or by "special inspection" by the BCSA.

3. Construct station & plan for inspections

- Begin site construction once equipment and station design are approved. The BCSA will have specified certain hold and inspection points, such as pressure testing of underground pipe with the trenches open.
- Once construction is complete, obtain approval from the the BCSA to energize the equipment and introduce natural gas to the station. The the BCSA will also ask that you provide proof of electrical approval and pressure vessel CRNs at this stage.

Note: The BCSA will provide a temporary permit to operate during commissioning.

- Once all equipment has been commissioned and tested, submit a request for a final site inspection to the BCSA. This site inspection may include testing of safety equipment, such as emergency shut down (ESD) systems.

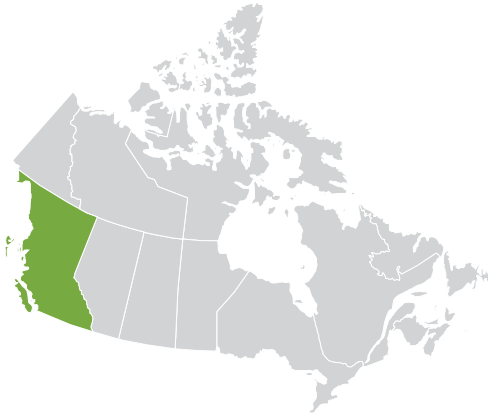
4. Get operating permit & plan for re-certification

- Upon successful completion of the final inspection, the local municipality will issue an occupancy permit and the BCSA will issue an operating permit.
- Review and understand the requirements for station re-certification as detailed in local regulations.

HOW TO GET A CNG REFUELING STATION APPROVED BRITISH COLUMBIA

What You Need to Know

Congratulations on making the decision to switch your fleet to compressed natural gas (CNG). 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 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.



The primary code that applies is the CSA B108 – Natural Gas Fueling Stations Installation. This Code applies to public and private CNG stations including fast fill and time fill stations.



Public stations can refuel to a settled pressure of 3,000 psi. Private stations can refuel to a settled pressure of 3,600 psi. Work is underway to allow all Canadian stations to refuel to a settled pressure of 3,600 psi.



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. Municipalities check for compliance with local bylaws. No federal approval is required.



Knowledgeable experts and equipment suppliers can help with station options, approvals, and permits.



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

HOW TO USE THIS REFERENCE TABLE

To learn about the requirements for station approval, start in the Description column for the area of interest and read across the row. The information in this Reference Table is intended to provide extra detail related to the process outlined in the Checklist on page 2. Please note that blanks mean there are no current requirements in this area. Note that additional approvals beyond those outlined in the Table may be required depending on the specific circumstances.

CNG STATION APPROVAL REFERENCE TABLE

Item	Description	Overall Station Design	Pressure Vessels and Piping	Electrical
General Code Requirements				
100	Authority Name	BCSA	BBCSA - Boilers Branch	BCSA
110	Primary Review and Inspection Code(s)	CSA B108 (this is not adopted in BC but is used as a reference standard). B149.1-2010	CSA B51 Part 3 (storage vessels and piping)	Canadian Electrical Code
111	Secondary Inspection Code or Regulation	ASME B31.3 (piping)		
112	Secondary Inspection Code or Regulation			
Canadian Registration Number (CRN) Requirements				
200	Required on Piping Systems:		>3" NPS Only	
201	Required on Vessels: (Note that as per ASME Section VIII--Vessels are >15 psig, and >1.5 FT3 inside volume, and >6" inside diameter.)		Only ASME sized vessels. Vessels from outside of Canada must have National Board registration	
202	Required on what components:	Components must be certified to applicable Canadian standard	Piping only--valves and instrumentation are exempted. Directive D-B6 070402 3-- EXEMPTION FROM REGISTRATION REQUIREMENTS	
203	Special CRN Requirements:			
204	Exemptions:		Directive D-B6 070402 3-- EXEMPTION FROM REGISTRATION REQUIREMENTS FOR CATEGORY A, B, C, AND G CATEGORY FITTINGS All piping <3" NPS Most piping fittings, flanges, valves and instrumentation	
Licensing Requirements				
300	Designer Licensing	Qualified Professional		
301	Equipment Supplier Licensing			
302	Station Developer			
303	Station Construction Contractor	Valid Gas Contractor's License	Boiler Contractor License	

Item	Description	Overall Station Design	Pressure Vessels and Piping	Electrical
Licensing Requirements (continued)				
304	Station Maintenance Contractor	Valid BC gas fitters qualification	Boiler Contractor License	
305	Station Operator	Registered under a gas annual permit		
Process Steps				
400	Project Inception	Informal meeting to discuss the nature, size and location of the project		
401	Site Design	Submit site layout drawings demonstrating compliance with B108 on setbacks and other issues Submit a narrative describing the station size, configuration and operations Submit P&IDs with line sizes, pressures, temperatures, and a bill of material with all pressure retaining components listed		
402	Equipment Design	Submit to BCSA Design Registration, P&IDs with line sizes, pressures, temperatures, and a bill of material with all pressure retaining components listed		
403	Equipment in Plant Inspections--In Province	Must be witnessed by BCSA Pneumatic testing to 120% or hydro testing to 150% of design pressure	Pressure vessels must be manufactured by ASME accredited company. Inspection by authorized inspection agency	3rd party electrical inspection by recognized agency (such as CSA or ETL)
404	Equipment in Plant Inspections--Out of Province	Pneumatic testing to 120% or hydro testing to 150% of design pressure	Pressure vessels must be manufactured by ASME accredited company. Inspection by authorized inspection agency. Piping inspection by BCSA safety officer	3rd party electrical inspection by recognized agency (such as CSA or ETL)
405	Site Testing	Must be witnessed by BCSA Pneumatic testing to 120% or hydro testing to 150% of design pressure		
406	Site Inspection	BCSA Inspection		
407	Final Operating Permit	BCSA will advise the Municipality that all CNG requirements have been met once BCSA has completed their inspections satisfactorily. Pressure vessels require an operating permit		