



PCP-07

Medical Gas Piping and Systems Installation Personnel Certification Guide

June 2016



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Introduction

Purpose of this Handbook

This handbook provides information on the requirements to achieve and renew a Medical Gas Piping and Systems Installation personnel certification.

This personnel certification guide is provided for informational purposes only. The most current version of this manual, as published on the CSA Group's website, shall prevail in any case a discrepancy occurs between this version and the official released version of this guide.

About CSA Group

CSA Group (an operating name of the Canadian Standards Association (CSA) and its wholly owned subsidiary CSA America, Inc.) is a not-for-profit, membership-based, solutions-oriented organization, serving business, industry, government and consumers in North America and the global marketplace. Our corporate vision is a better, safer, more sustainable world where standards work for people and business. CSA Group achieves this goal by focusing on the development and delivery of standards and codes, application products, training and personnel certification programs - all aimed at enhancing public safety, improving quality of life, preserving the environment and facilitating trade.

CSA Group also provides testing and certification services for electrical, mechanical, plumbing, gas and a variety of other products; and provides consumer product evaluation, inspection and advisory services for retailers and manufacturers.

As technologies continue to grow and evolve, and as the labor force grows more mobile, so has the need for a method to consistently assess, certify and measure individual worker knowledge. In response to this growing need, CSA America, Inc. develops and manages personnel certification programs to the requirements of ANSI/ISO/IEC 17024:2012 *General Requirements for bodies operating certification systems of persons*. Current operating programs include CNG (Compressed Natural Gas) Fuel System Inspector, Gas Laboratory Technicians, Greenhouse Gas Inventory Quantifier, Greenhouse Gas Verifier, P.I.P.E.S. Riggers, Medical Gas Piping and Systems Installation, Construction Electrician (NOC 7241) Solar Photovoltaic (PV) Systems Installation, Fenestration Installation Technician and Certified Medical Device Reprocessing Technicians.

CSA Group is an ANSI Accredited Certifier – Accreditation # 0779 for the CNG Fuel System Inspector personnel certification program.

Certification Contact Information

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Toronto, ON M9W 1R3
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Email: training@csagroup.org
www.csagroup.org

Medical Gas Piping and Systems Installation Certification

About this Certification

The Medical Gas Piping and Systems Installation occupational certification program has been developed by CSA Group in conjunction with industry stakeholders to provide assurance that an individual possesses the competencies deemed necessary to perform the job function of a Medical Gas Piping and Systems Installer.

Passing the Medical Gas Piping and Systems Installation examination will indicate that the candidate possesses the minimum performance criteria including all relevant knowledge, skills and abilities of personnel installing and maintaining medical gas piping and systems in hospitals and healthcare facilities projects. Certified Medical Gas Piping and Systems Installers will be periodically re-assessed to ensure they remain up-to-date on technical developments and industry changes.

The CSA Group website will contain a registry of Certified Medical Gas Piping and Systems Installers.

Qualifications of a Medical Gas Piping and Systems Installer

The Medical Gas Piping and Systems Installer certification tests each candidate's knowledge to ensure the candidate possesses the knowledge and skills of the Medical Gas Piping and Systems Installer known as the minimally qualified candidate (MQC). CSA Group's expert committee defines the minimally qualified candidate as follows:

The Medical Gas Piping and Systems Installer understands the brazing and purging procedures, can perform medical gas procedures safely, have a working knowledge of the relevant regulatory codes and recognize if the plan is compliant with the codes. The installer can communicate effectively with the plant representatives to plan service interruptions; has a basic knowledge of how source systems function (vacuum pumps, sources of supply); can follow QA/QC procedures; performs cross connection and pressure testing and understands the importance of testing; can properly identify piping; and understands the third party medical gas inspection process.

The qualified candidate can perform medical gas piping and system installation activities without assistance, including (but not limited to):

- Project planning/layout and routing / design intent – Verify the plan that is laid out as being appropriate and meeting code requirements.
- Determine Facility requirements
- Valve requirements and location
- Customer communications
- Communications with other trades/ job coordination
- Read, interpret drawings and specs
- Identification and selection of materials (correctness of all components)
- Documentation (CRNS for the materials)
- Meet all regulatory requirements, codes, rules that govern this activity
- Materials Storage and handling
- Gas sources storage and handling
- Cleaning (Pre, ojt, post)
- Fit up / Joining
- Brazing
- Identification
- Alarms
- Purging procedures
- Protection of piping (capping lines to protect from contamination)
- Quality control
- Testing
- Commissioning
- Document
- Troubleshoot
- Maintain / shutdown / alterations / backfeeding
- Knowledge of job hazards
- As built
- PR

Medical Gas Piping and Systems Installation Certification

Certification Prerequisites

To apply to take the Medical Gas Piping and Systems Installation exam for certification, candidates must satisfy the following prerequisites and submit documentation:

1. Certificate of Qualification (C of Q) Plumber or Steamfitter/Pipefitter; AND
2. Documented completion of a recognized medical gas training program that includes:
 - 32 hours classroom training, and
 - 4 hour practical/hands-on training (brazing / purging procedures); AND
3. Valid provincial brazing test (acceptable to the AHJ in province of residence).

Training Resources

Medical Gas Piping and Systems Installation courses are available through a number of community colleges throughout Canada. Courses are also available through professional associations such as National Association of Union Schools & Colleges and may be available through private colleges or other training providers.

For a list of training resources, please visit CSA Group's website at: www.csagroup.org. CSA Group does not endorse any organization and provides this list as a resource for individuals seeking additional information.

Certification Process

Application Process

To become a Certified Medical Gas Piping and Systems Installer an applicant must:

1. Submit all applicable fees through our website shop.csa.ca
2. Complete the online application
3. Meet all prerequisites of the certification
4. Provide copies of applicable documentation
5. Pass a written exam

All fees are due when submitting the application.

An e-mail address must be included as this will be the primary mode of communication regarding the steps in the certification process.

CSA Group will process applications in the order received. If an application is incomplete, CSA Group will notify the applicant via e-mail of the deficiencies found in the application. Those deficiencies must be corrected before the candidate will be approved to take the certification exam.

All applicants will receive a confirmation e-mail regarding their registration and certification eligibility requirements.

Each new application has a life span of six (6) months from the time it is received. The applicant must fulfill all requirements of the certification process within that time period. If an applicant is unable to complete the certification process within that period of time, the application will expire and the applicant must restart the certification process including payment of any application or examination fees.

The certification application is provided at the end of this document.

Program Fees

Program fees for the Medical Gas Piping and Systems Installation Certification, including application, examination, and re-examination fees, may be found on the CSA Group website. Please visit www.csagroup.org or shop.csa.ca for more information.

Payment and Refund Policy

Payment of the fees must be submitted online at shop.csa.ca CSA Group accepts Visa, MasterCard and American Express as payment in US or Canadian dollars.

When the payment has been received, candidates will receive an email from training@csagroup.org with a log in and password to CSA's eLearning system in order to complete the online application. Once the application is submitted, CSA will process the application and notification will be sent to the candidate by email regarding the next step. This email may:

- Request additional information if necessary, or
- Notify the candidate the application has been selected for audit (if selected), or
- Notice of approval to exam, and information for scheduling.

Application fees are non-refundable.

Exam fees may be refunded if a written request is submitted at least one month prior to a scheduled exam date and at least one month prior to the examination eligibility expiration date. CSA Group will retain the application fee and a processing fee of \$95 US or Canadian Funds.

Audit Process

The submission of an application indicates the applicant's agreement to comply with the terms of CSA Group's audit process. All applications are subject to an audit and a percentage of applications are randomly selected for audit. Please note that while the selection process for an audit is primarily random,

Certification Process

CSA Group reserves the right to select any applicant to be audited at any time, including after the credential has been awarded. If the applicant fails to meet the audit requirements after attaining the credential, the applicant is not entitled to a refund.

The applicant will be notified when the application and fee is received if the submitted application is selected for audit. An audit notification will be sent to the applicant electronically and will provide detailed information on how to comply with the terms of the audit. During an audit, the applicant will be asked to submit supporting documentation required by the certification requested that may include, but is not limited to, the following:

- Copies of certificates and/or letters from the training institution(s) for any mandatory course if documented on the application;
- Copies of certificates and/or letters to demonstrate the required amount of professional development; and
- Other items required by the credential applied for.

Once documentation is provided, the audit should take approximately two weeks to complete. The applicant may not continue with the certification process until the applicant has complied with the audit requirements.

Once the applicant has successfully completed the audit, the applicant will be permitted to continue the certification process and will be notified of his/her examination eligibility. If the applicant fails to meet the audit requirements, a refund may be given, dependent upon the stage of the certification process at the time of the audit. (Refer to the Payment and Refund Policy section of this handbook for more details).

Examination Administration and Scheduling

The Certified Medical Gas Piping and Systems Installer certification is administered through CSA Group's computer based test vendor at test sites located worldwide. Once a candidate has submitted all the required information and has been approved to take the certification exam, CSA Group will send the candidate approval to exam and scheduling information to by email. Once the candidate receives their email notifications they will be able to register for the exam at the test site/date they choose. Applicants should save all examination scheduling verifications for their records. Testing sites are normally within a short driving distance from most candidates.

CSA Group uses computer-based testing (CBT) to deliver its certification examinations, however, in certain situations, paper-based tests may be offered following specific industry events or following selected training courses when a certified exam proctor is available. Please contact CSA Group for paper-based test delivery. CSA Group reserves the right to cancel a scheduled paper-based test in the event that there are fewer than 10 candidates registered.

Examination Eligibility

The examination eligibility period is six (6) months from the time an application is received. Applicants may take the examination up to three times within the six month period if they do not pass on the first attempt. (As noted below, re-examination fees apply to the second and third attempts to pass the examination.)

Re-examination

During the examination eligibility period, an applicant may take the examination up to three times.

Re-examination fees apply to the second and third attempts to pass the examination, and re-examination fees must be paid in full in order to schedule an exam. If the eligibility period expires without achieving a passing score, the applicant must reapply for the certification.

Examination Language

The CSA Group certification examination for Medical Gas Piping and Systems Installer is administered in English.

Certification Process

Examination Special Accommodation

The administration of the exam may be modified to accommodate special needs at the request of the candidate. Please submit supporting documentation with the completed application.

Certificate Issuance

Upon confirmation of application requirements and passing the certification exam, each Medical Gas Piping and Systems Installer will be issued a certificate indicating the valid timeframe of the certification.

Replacement of Certificates

CSA Group may issue a replacement certificate if a Medical Gas Piping and Systems Installation Certificate has been lost or destroyed or if the Certified Medical Gas Piping and Systems Installer's name has changed and the original certificate is returned to CSA Group. A replacement fee will be charged.

Certification Period

CSA Groups' Medical Gas Piping and Systems Installers certification is valid for a period of 5 years. are required to submit all required fees during the certification period.

Use and Requirements for Use of Certificates and Logos/Marks

Once an individual receives his/her certification letter and certificate the individual may represent themselves as a Certified Medical Gas Piping and Systems Installer under CSA Group's Certified Medical Gas Piping and Systems Installation Certificate Program.

Certification under this program does not authorize the certified individual any rights to the use of CSA Group's name or logo (mark). All requests for use of the mark must be made in writing and expressly authorized by CSA Group. As part of the program monitoring, CSA Group routinely reviews advertisements, catalogs, websites and promotional material to confirm compliance. Unauthorized use of the CSA Group mark constitutes cause to initiate procedures for withdrawal of certification and in severe cases may constitute grounds for legal action.

Professional Code of Ethics

Certified Medical Gas Piping and Systems Installers affirm adherence to a professional code of ethics. Applicants must review and sign the Code of Ethics when applying to CSA Group for certification. A copy of the Code of Ethics is included in this handbook with the certification application.

Non-Discrimination

Participation in CSA Group' personnel certification programs are open on a non-discriminatory basis to all individuals and do not require membership in any association.

Confidentiality

CSA Group will maintain confidential information received from the individual and will not disclose such information to any third party without prior written approval by the individual; except in response to a subpoena, court order or other compulsory process. CSA Group will provide written notification to the individual at least five (5) business days prior to releasing such information.

Certificate Renewal

Medical Gas Piping and Systems Installation Certificates expire every (5) five years. Generally, CSA Group will issue a renewal notice and application form 90 days prior to the date when the certificate expires. Certified Medical Gas Piping and Systems Installers, who apply for renewal, meet the renewal qualifications, and pay the required fee will receive a new certificate containing the new expiry date.

Certification Process

Recertification Requirements

Medical Gas Piping and Systems Installers may apply for recertification up to 6 months prior to their certificate expiration date and no later than 3 months after expiration. Medical Gas Piping and Systems Installers applying for certification more than 3 months after expiration of their certification must fulfill all requirements of the initial certification process.

A Medical Gas Piping and Systems Installer may recertify by successfully completing the Medical Gas Piping and Systems Installation re-certification requirements:

To apply to take the Medical Gas Piping and Systems Installation exam for certification, candidates must satisfy the following prerequisites and submit documentation:

1. Provide evidence of 2000 hours in the preceding 3 years of continuous satisfactory work activity in the piping trade during the certification period, signed off by a Supervisor; AND
2. Provide documentation of valid provincial brazing test within the preceding 2 years; AND
3. Successfully complete the CSA Group written examination.

Refusal to Issue or Renew a Certified Medical Gas Piping and Systems Installer Certification

CSA Group may refuse to issue or renew a Medical Gas Piping and Systems Installer Certification:

1. For any of the circumstances under which CSA Group can revoke or suspend a certification; or
2. The certification to be renewed was revoked or suspended by CSA Group.

Revocation or Suspension of a Certified Medical Gas Piping and Systems Installer Certification

CSA Group reserves the right to withdraw the certification of any person violating the policies and procedures of the certification process.

CSA Group may revoke or suspend a Medical Gas Piping and Systems Installer Certification for any of the following reasons:

1. The application was fraudulent or contained inaccurate information;
2. The person was discharged from his/her employment for incompetence, unless the person has not yet exhausted the rights of appeal available in his/her organization;
3. The person has previously had a Certified Medical Gas Piping and Systems Installer Certification revoked; or
4. The person has failed:
 - a. To exercise the level of care, diligence and skill that a reasonably prudent verifier would be expected to exercise in a similar situation;
 - b. To act honestly, competently and with integrity; and
 - c. To meet or has contravened any condition that is set out in his or her certificate.

Upon a notice of termination of a Certified Medical Gas Piping and Systems Installer Certification, the individual will immediately terminate the use of CSA Group certification mark, if permission for use of the mark had been granted. Additionally, the individual will cease all use of or reference to the CSA Group certification and the CNG-FSI designation. Individuals have the right to appeal as outlined in the appeals process below.

Voluntary Withdrawal of Certification

Individuals wishing withdrawal of the Certified Medical Gas Piping and Systems Installer Certification must submit a request in writing to CSA Group. Once approved, the individual will be removed from the National Registry and must immediately cease any use of or reference to the CSA Group certification.

Certification Process

Individuals wishing to reinstate their certification must apply for certification as outlined in the certification process.

Appeals, Complaints, and Disputes

CSA Group's certification programs are administered and supervised by CSA America, Inc., a wholly owned subsidiary of CSA Group. All challenges to the certification program are governed by CSA Groups' Appeals and Complaint Procedures.

Any individual shall have the right to appeal all decisions relating to CSA Group's personnel certification program including, but not limited to: testing, denial or termination of certification. A written notice of intent to appeal shall be sent to CSA Group within five (5) business days of the individual's receipt of the decision, which forms the basis for appeal.

CSA Group shall arrange an appeal meeting with the individual at CSA Group's headquarters or other mutually agreed to location, within ten (10) business days of the receipt of the written request to appeal. The individual and a CSA Group representative, who was not involved in the original decision causing the appeal, will attend and participate in the meeting. At this meeting, the individual may not be represented by counsel unless CSA Group has been notified at least five (5) business days prior to the meeting. CSA Group shall provide its decision within five (5) business days after the meeting has taken place.

If the individual still disputes the decision made by CSA Group after the appeal meeting, the individual has the right to appeal to an independent and impartial Appeals Board as outlined below.

Appeals Board

Upon receipt of a written intent by the individual to appeal to the Appeals Board, CSA Group shall arrange the Appeals Board hearing within ten (10) business days of the receipt of the request and notify the individual and responding parties. The individual may be represented by counsel at this meeting.

No individual or agent thereof, nor any person with any interest, directly or indirectly, in such individual, shall serve on the Appeals Board.

The Appeals Board hearing shall be informal and private. The individual shall be given a full opportunity to present any material or proofs relevant to the issue. Formal rules of evidence shall not be applicable. The Appeals Board shall determine the relevance and materiality of any evidence presented.

When the individual has had a full opportunity to submit their case, the Appeals Board may declare the hearing closed and shall provide the individual and CSA Group with a decision, including a brief description of its reasons, within ten (10) business days. Decisions of the Appeals Board shall be by majority vote.

All costs related to the Appeals Board are the responsibility of the individual and are due within ten (10) business days of the billing, unless the Appeals Board sides with the individual's position, in which case CSA Group will be responsible for the costs.

Examination Preparation and Completion

General Description

The Medical Gas Piping and Systems Installer Certification exam consists of approximately 80 multiple-choice questions. Examination questions have only one correct answer. Each exam question is independent and does not rely on the correct answer to any other questions.

CSA Group may include an additional 10 questions in the exam for statistical evaluation of future examination questions. These additional questions are not included as part of the examination score. These questions will not be identified in the exam, so it is important that the candidate answer every question completely. The candidate's grade is based on the number of scored items answered correctly.

The candidate will have two hours (120 minutes) to complete the exam. Reference materials are not permitted in the examination room. The CSA Z7396 standard will be available for reference during the exam and will be viewable on-screen through the testing system.

Exam Content

The exam is based on categories of tasks and knowledge required by a Certified Medical Gas Piping and Systems Installer. The table provided in the Examination Body of Knowledge and Blueprint section of this guide provides the exam topics that will be covered on the exam.

Pass-Fail Standard

CSA Group's Certified Medical Gas Piping and Systems Installer certification examination passing standard is established utilizing standard psychometric guidelines and is determined using a criterion-reference technique. A criterion-referencing score judges a candidate based on a predetermined standard of knowledge or skill. This predetermined standard is defined as the minimum score that would be expected from candidates who have the level of knowledge and skills needed to competently conduct their work responsibilities.

Exam Delivery

The Certified Medical Gas Piping and Systems Installer certification exam will be delivered electronically at our computer-based testing center locations on demand, or as a written (paper and pencil) exam during scheduled exam sessions.

For the paper and pencil exams, all answers will be recorded on the provided exam answer sheet using a No. 2 pencil.

Examination General Instructions

During the exam, the proctor will be responsible for supervising the exam in such a way as to ensure that exam security is maintained. As such, all candidates are expected to adhere to the following guidelines during the test sessions.

A candidate's participation in any irregularities occurring during the examination, such as giving or obtaining unauthorized information or aid, as evidenced by an observation or subsequent statistical analysis, may be sufficient cause to terminate participation, invalidate the results of the examination, or other appropriate remedy.

To be admitted to the examination the candidate must:

- Submit a copy of the confirmation email with the **Test Authorization Code** to the proctor.
- Bring a **current photo identification with signature** (driver's license, immigration card, passport, etc.). **The candidate will NOT be admitted without proper identification.** If there are any questions concerning the type of picture ID, the candidate should contact CSA Group.
- Report on time.

Examination Preparation and Completion

During the Exam:

- Smoking is NOT permitted in the examination site.
- Food and beverages are NOT allowed in the examination area.
- All personal items including books, notebooks, other papers, all electronic equipment (i.e. cell phones, cameras, etc.), book bags, coats, etc. will NOT be allowed in the exam room and must be left outside of the exam room **AT YOUR OWN RISK.**
- Friends and relatives, including children, will NOT be allowed in the examination building.
- Computer-based testing facilities offer exam services to multiple agencies. There may be other individuals in the testing room with the candidate who are sitting for exams from different organizations. The rules for their exam may be slightly different than the rules for the CSA candidate's exam in terms of exam time, and what is and is not allowed at their station.
- Computer-based tests are delivered via secure Internet connections. Internet connections are subject to the local Internet providers in the area. While it is not the norm, Internet connections can, on occasion, be lost momentarily, requiring the proctor to log the candidate back into his/her examination. If this occurs, the candidate should inform the proctor that the connection has been lost and the proctor will assist the candidate in logging back into the exam. The exam time remaining will be exactly the same as it was when the Internet connection was lost.

Prohibited Items:

Candidates are expressly prohibited from bringing the following items into the exam room:

- cameras, cell phones, optical readers, or other electronic devices that include the ability to photograph, photocopy or otherwise copy test materials
- notes, books, dictionaries or language dictionaries
- book bags or luggage
- ipods, mp3 players, headphones, or pagers
- calculators (except as expressly permitted by the test sponsor), computers, PDAs, or other electronic devices with one or more memories
- personal writing utensils (i.e., pencils, pens, and highlighters)
- watches
- food and beverage
- hats, hoods, or other headgear

If the proctor determines that the candidate has brought any such items into the exam room, the test session will immediately stopped and voided.

Environment

Examination room temperature can be unpredictable; therefore, we suggest that the candidate bring appropriate clothing (e.g. sweater or sweatshirt without pockets) to help to adapt to a cooler or warmer climate in the examination room. The candidate should bring ear plugs if he/she is sensitive to noise.

Exam Security

All CSA Group certification examination content and wording of examination questions constitute confidential information protected by copyright law. Any unauthorized receipt, possession, or transmission of CSA Group examination questions, content, or materials, either before the examination, on-site, or in the future is strictly forbidden.

The use of CSA Group examination materials for the purpose of examination preparation or training is also forbidden.

CSA Group reserves the right to take whatever measures are necessary to protect the integrity of its examinations. Violation of the CSA Group examination agreement and/or non-disclosure agreement, or the giving or receiving of aid in any CSA Group examination as evidenced either by observation at the

Examination Preparation and Completion

time of the examination or by statistical analysis, or engaging in other conduct that subverts or attempts to subvert the examination or the CSA Group certification process, is sufficient cause for CSA to:

- Bar an individual from the examination
- Terminate participation in the examination
- Withhold and/or invalidate the results of the examination
- Withhold a certification
- Revoke a certification or
- Take appropriate other action.

Exam Results Notification

Approximately two weeks after completion of the exam, the candidate will receive official notification of the exam result from CSA Group. Candidates passing the exam and fulfilling all program requirements will also receive a certificate with the effective date of certification. In order to protect the candidate's confidentiality, under no circumstances will test scores be given by telephone.

Examination Body of Knowledge and Blueprint

Examination Body of Knowledge

The examination is based on the requirements of **CSA Z7396-12 Medical gas pipeline systems – Part 1: Pipelines for medical gases, medical vacuum, medical support gases, and anaesthetic gas scavenging systems.**

The following exam objectives were developed by a group of industry experts. The weighting of each objective was determined through industry survey. The following table outlines the knowledge and skills required for each objective.

Section 1	Alarms	12.5%
1.1	Identify the purposes and functional requirements of master alarms.	
1.2	Identify the purposes and functional requirements of area alarms.	
Section 2	Distribution and Termination	23.1%
2.1	Apply the code requirements and best methods for installing pipes (location, pipe supports, bending, proper tools, labeling/color coding).	
2.2	Given a configured plan, determine if code compliance has been met.	
2.3	Identify/Describe the piping requirements for additions, modifications or emergency repairs to existing systems.	
2.4	Identify/Describe the CSA Z7396 code requirements for brazing/purging.	
2.5	Identify/Describe the common trade practices for brazing/purging.	
2.6	Identify/Describe the CSA Z7396 code requirements for valves/zone valves.	
2.7	Given a situation, select the proper pipe size according to CSA Z7396.	
2.8	Identify pipe size requirements by individual gas service.	
2.9	Identify/Describe the requirements and purpose of gas fittings according to accepted trade practices.	
2.10	Identify/Describe the CSA Z7396 code requirements and purpose of articulating arms.	
Section 3	Materials	15.3%
3.1	Describe CSA Z7396 code requirements for material selection and identification.	
3.2	Describe CSA Z7396 code requirements for material handling and storage.	
Section 4	General	19.0%
4.1	Identify the scope of the CSA Z7396 code.	
4.2	Identify definitions of various terms specific to med gas.	
4.3	Identify the relevant standards pertaining to med gas.	
4.4	Identify situations where the AHJ has inspection requirements.	
4.5	Determine installer document requirements.	
4.6	Identify requirements and common trade practices for working in occupied spaces.	
4.7	Identify protocol for hospital shut downs.	
Section 5	Source of Supply System	15.2%
5.1	Identify/Describe the CSA Z7396 code requirements and purpose of scavenging pumps and vacuum pumps.	
5.2	Identify/Describe the CSA Z7396 code requirements and purpose of medical air compressors, instrument air.	
5.3	Identify/Describe the CSA Z7396 code requirements and purpose of bulk systems.	

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5.4	Identify/Describe the CSA Z7396 code requirements and purpose of manifolds.	
Section 6	Testing	15.0%
6.1	Identify/Describe the CSA Z7396 code requirements for installer testing.	
6.2	Identify/Describe the CSA Z7396 code requirements for accredited testing agency.	
6.3	Identify/Describe the CSA Z7396 code requirements for the healthcare facility.	