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Introduction

Purpose of this Handbook
This handbook provides information on the requirements to achieve and renew a P.I.P.E.S. Rigger 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 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 17024:2003 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 America, Inc. is an ANSI Accredited Certifier – Accreditation # 0779 for the CNG Fuel System Inspector personnel certification program.

Certification Contact Information

Canada Region

CSA Group
Personnel Certification
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Mississauga, Ontario
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Phone: (800) 463-6727
Fax: (877) 539-7613
Email: training@csagroup.org
www.csagroup.org

US & Mexico Region

CSA Group
Personnel Certification
8501 East Pleasant Valley Road
Cleveland, Ohio
USA 44131
Phone: (877) 235-9791
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Acknowledgements

The development of this personnel certification was made possible by the support of United Association
Canada (UA) and the National Association of Union Schools and Colleges (NAUSC).

Personnel Certification Scheme Committee

This personnel certification program was developed under the guidance of the CSA P.I.P.E.S. Rigger
Certification Scheme Committee.

M. Battye  AECON Industrial
C. Blair      AECON Lockerbie
K. Busch     Saskatchewan Piping Industry Joint Training
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C. Cruikshank Pipe Trades Training Center
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S. Ducharme  Piping Industry Training Committee Local 254
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I. Harper    U.A. Local 67
B. Hill      U.A. Local 463
V. Kacaba    U.A. Local 46
A. MacKinnon U.A. Local 682 Plumbers and Pipefitters
J.D. Mann    U.A. Local 527
R. Martin    Bruce Power
L. Nordlund  PCL Industrial Management Inc.
R.K. Robinson U.A. Local 552
T. Ryan      U.A. Local 853
L. Slaney    N.A.U.S.C.
R. Smith     UA/MCA Joint Apprenticeship and Training Committee of New Brunswick
F. Turano    Grist, Turano and Associates
E. Turpin    U.A. Local 71
R. Westlake  Westlake Industries Inc.
About this Certification

The P.I.P.E.S. Rigger Personnel Certification 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 rigging personnel working in the piping industry.

This certification has been developed in compliance with the ISO/IEC 17024:2003(E) standard. ISO 17024 is the global benchmark for organizations operating personnel certification programs and outlines the methods and procedures required to ensure the objective and unbiased assessment of a candidate’s knowledge, skills and abilities.

The acronym P.I.P.E.S. stands for “Pipes, Inclusive of Piping Systems and associated Equipment and Supports”. The P.I.P.E.S Rigger personnel certification has been designed specifically by and for Journeyperson and Apprentice piping industry workers including: steamfitter-pipefitters, plumbers, pipe welders, refrigeration mechanics, sprinkler systems installers, and instrumentation mechanics.

Passing the P.I.P.E.S. Rigger examination will indicate that the candidate possesses the knowledge, skills and decision-making abilities necessary to perform the safely the duties and tasks of a P.I.P.E.S. Rigger. P.I.P.E.S. Rigging personnel must be able to speak, read and understand the working language of the area they are working in, perform all load calculations, physically perform the work, and have an understanding of and obligation to comply with all relevant regulatory requirements.

Certified P.I.P.E.S. Riggers 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 P.I.P.E.S. Riggers.

Qualifications of a Certified P.I.P.E.S. Rigger

The P.I.P.E.S. Rigger certification tests each candidate’s knowledge to ensure the candidate possesses the knowledge and skills of the P.I.P.E.S. Rigger known as the minimally qualified candidate (MQC). CSA’s expert committee defines the minimally qualified candidate as follows:

The MQC has the knowledge and is able to do the following without assistance, including (but not limited to):

1. Plan the lift including the pre-lift job assessment and meeting (i.e. load calculations*, coordination with team members, site-preparation, job task analysis worksheet, etc)
2. Secure the lift area, ensuring safety considerations
3. Load inversion
4. Selection and inspection of equipment (could include selection and assembly and dismantling of cranes), with emphasis on correct application of slings and hardware, etc. for weight to be lifted
5. Understand basic crane operation (including site prep for the crane)
6. Calculate/determine ratings (weight and measured radius)
7. Determine anchor points (for inside rigging)
8. Calculate sling angles
9. Prepare the load, secure the load (select and connect rigging and hardware)
10. Use appropriate lashings when indicated
11. Use appropriate knots when indicated
12. Signaling
13. Common communication with the crane operator
14. Guide/control the load
15. Place/secure the load
16. Post-lift assessment and inspection of rigging equipment (ie. to determine if repairs are necessary -not maintenance).
17. Complete appropriate documentation (as required)

Certification Prerequisites
To apply to take the P.I.P.E.S. Rigger exam for certification, candidates must satisfy the following prerequisites:

1. Proof of Qualification (one of the following):
   a. Provincial Certificate of Qualification in one of the Pipe Trades; OR
   b. Interprovincial Red Seal Certification in one of the Pipe Trades; OR
   c. Metal Trades Worker or Registered Apprentice: equivalent evidence of status through employer documented hours with a minimum of 2000 hours in a 3 year period of rigging work in the piping industry in a shop or production facility;
2. Training
   a. Option A
      i. Successful completion of 24 Hours Classroom Training in rigging principles (NAUSC rigging course or equivalent)*
      ii. Successful completion of 16 hours Practical Training (NAUSC rigging course or equivalent)*
      iii. Successful completion of Performance Testing consisting of 1 required lift with three disciplines as set out in NAUSC rigging program (NAUSC testing or equivalent)*; or
   b. Option B
      i. Documentation of a current EPRI Rigging certification

Please note: all information including references provided to CSA Group as part of the application process will remain confidential.

Training Resources
Training courses are available through the National Association of Union Schools and Colleges (NAUSC) and a number of manufacturers and training organizations throughout Canada, full and part-time in-class and via distance education. Courses are also available through professional associations and may be available through private colleges or other training providers.

CSA Group does not endorse any training organization.
Certification Process

Application Process
To become a Certified P.I.P.E.S. Rigger an applicant must:

1. Submit required fees (pay online at http://shop.csa.ca);
2. Complete the on-line application form with all required information;
3. Meet all prerequisites of the certification;
4. Agree and adhere to the professional code of ethics; and
5. Pass the written CSA P.I.P.E.S. Rigger certification exam.

All application fees are due when submitting the application.

An e-mail address is mandatory 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.

A sample of the certification application is provided at the end of this document.

Program Fees
Program fees for the P.I.P.E.S. Rigger Certification include:

1. Application fee
2. Examination fee
3. Re-examination fee (if applicable)

Current pricing may be found on the CSA Group website. Please visit http://shop.csa.ca/ for more information.

Payment and Refund Policy
Payment of the fees must be submitted with the completed and signed application. All fees shall be submitted in US or Canadian funds. CSA Group accepts checks, Visa, MasterCard and American Express as payment.

When the payment has been received, and the application is processed, notification will be sent regarding the next steps which may include:
- Request for additional information
- Application audit (if selected)
- Exam scheduling notification.

Application and exam fees are non-refundable.
Certification Process

Audit Process

The submission of an application indicates the applicant’s agreement to comply with the terms of CSA Groups’ 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, 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 diploma or a global equivalent;
- Signatures from supervisor(s) or manager(s) for the skills, experience and/or responsibilities if required and documented in the experience section of the application and on the performance checklist;
- 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 complying 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 P.I.P.E.S. Rigger certification is administered through CSA Group’s computer based testing centres located across North America. 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 did not pass on the first attempt. (As noted below, re-examination fees apply to the second and third attempts to pass the examination.)
Certification Process

Re-examination
Each applicant is granted a six month eligibility period in which to pass the examination. During the 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 P.I.P.E.S. Rigging is administered in English.

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
Each Certified P.I.P.E.S. Rigger will be issued a certificate indicating the valid timeframe of the certification.

Replacement of Certificates
CSA Group may issue a replacement certificate if a P.I.P.E.S. Rigger certificate has been lost or destroyed, or if the Certified P.I.P.E.S. Rigger’s name has changed, and the original certificate is returned to the director. A replacement fee will be charged.

Certification Period
CSA Groups’ Certified P.I.P.E.S. Rigger certification is valid for a period of 5 years.

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 P.I.P.E.S. Rigger under CSA Groups’ Certified P.I.P.E.S. Rigger Personnel Certification Program.

Certification under this program does not authorize the certified individual any rights to the use of CSA Groups 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 P.I.P.E.S. Riggers 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 Groups’ personnel certification programs is open on a non-discriminatory basis to all individuals and does 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.

Certification Renewal

P.I.P.E.S. Rigger certifications expire every five years. CSA Group will issue a renewal notice and application form approximately 90 days prior to the date when the certification expires. Certified P.I.P.E.S. Riggers, who apply for renewal, meet the renewal qualifications, and pay the required fee will receive a new certificate containing the new expiry date.

A P.I.P.E.S. Rigger must renew their certification through the examination process and must:

- Submit the on-line application and documentation for required education and/or experience
- Agree and adhere to the professional code of ethics
- Submit all required fees
- Pass the written CSA P.I.P.E.S. Rigger exam

Refusal to Issue or Renew a Certification

CSA Group may refuse to issue or renew a P.I.P.E.S. Rigger’s certification:

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

Revocation or Suspension of a 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 Certified P.I.P.E.S. Rigger’s 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 P.I.P.E.S. Rigger Certification revoked; or
4. The person has failed:
   a. To exercise the level of care, diligence and skill that a reasonably prudent technician would be expected to exercise in a similar situation;
   b. To act honestly, competently and with integrity; or
   c. To meet or has contravened any condition that is set out in his or her certificate.

Upon notice of termination of a P.I.P.E.S. Rigger certification, the individual will immediately terminate the use of CSA Groups’ 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 P.I.P.E.S. Rigger designation. Individuals have the right to appeal as outlined in the appeals process below.

Voluntary Withdrawal of Certification

Individuals wishing withdrawal of the P.I.P.E.S. Rigger 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.

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

Examination 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 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

Appeals, Complaints, and Disputes

CSA Groups’ certification programs are administered and supervised by the U.S. division, CSA America, Inc. 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 Groups’ 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 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.
Certification Process

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.
General Description

The P.I.P.E.S. Rigger 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. Exams are closed book. No reference materials may be used during the course of the exam.

Exam Content

The exam is based on categories of tasks and knowledge required by a P.I.P.E.S. Rigger. The list below outlines the examination content by category for the P.I.P.E.S. Rigger Certification.

- Safety and Inspection
- Hardware (Types and Applications)
- Slings (Types and Applications)
- Crane Operations (Types and components)
- Math / Calculate Loads
- Pre-Lift Planning
- Documentation
- Execution of Rigging and Lift Procedures
- Best Practice

Pass-Fail Standard

CSA Groups’ 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 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:
Examination Preparation and Completion

- Submit their Test Authorization Code to the proctor.
- Bring 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.

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 to the test site, the items may be demanded and held by testing center staff. Test center reserves the right to review the memory of any electronic device to determine whether any test materials have been photographed or otherwise copied. If the review determines that any test materials are in the memory of any such device, the test center reserves the right to delete such materials and/or retain them for subsequent disciplinary action. Upon completion of the review and any applicable deletions, the test center will return the device to the candidate, but will not be responsible for the deletion of any materials that may result from our review, whether or not such materials are test materials. By bringing any such device into the test site in contravention of our policies, the candidate expressly waives any confidentiality or other similar rights with respect to the candidate’s device, our review of the memory of the candidate’s device and/or the deletion of any materials. The test vendor, the examination site, and the test administration staff are not liable for lost or damaged items brought to the examination site.
Examination Preparation and Completion

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 content, specifically questions and answers are the proprietary and confidential property of CSA Group. They may not be copied, reproduced, modified, published, transmitted, or distributed in any manner without the express written authorization of CSA Group. Candidates must take no action to compromise the integrity or confidential nature of the exam and its contents.

Exam Results Notification
Approximately two weeks after completion of the exam, the candidate will receive official notification of the exam score 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 Knowledge Reference Documents

The P.I.P.E.S. Rigger exam draws on concepts included in the following standards and materials. They are helpful reference materials to use in preparation for the exam:

Documents and standards including, but not limited to:

- Alberta O.H.S.
- ASME B30.2 Overhead and Gantry Cranes
- ASME B30.3 Construction Tower Cranes
- ASME B30.5 Mobile and Locomotive Cranes
- ASME B30.9 Slings
- ASME B30.10 Hooks
- ASME B30.16 Overhead Hoists (Underhung)
- ASME B30.20 Below-the-hook Lifting Devices
- ASME B30.21 Manually Lever Operated Hoists
- ASME B30.26 Rigging Hardware
- Crane Handbook (Construction Safety Association of Ontario)
- IPT’s Crane and Rigging Handbook (2005)
- Master Rigger Card (Training International Inc.)
- Rigging Safety Guide (Mechanical Contractors Association of America)
- Rigging Manual (Construction Safety Association of Ontario)
- Rigging Manual for U.A. Journeymen and Apprentices

Other relevant information includes:

- Manufacturer’s guidelines and instructions
- Tools and instruments necessary for the installations
- Provincial/Territorial Best Practices
Exam Objectives

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.

<table>
<thead>
<tr>
<th>Section Name</th>
<th>Percentage of Exam</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety and Inspection</td>
<td>12%</td>
</tr>
<tr>
<td>1.1 Given a specific unsafe situation, identify the safety issues as set forth in Nation-wide safety regulations (legislation).</td>
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<tr>
<td>1.2 Given a lift scenario demonstrating negligence, explain of the possible legal ramifications that would result from an incident. Including, but not limited to: Due diligence, Bill C-45, Liability law, Competent person.</td>
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<tr>
<td>1.3 Given a lift scenario, demonstrate an understanding of the legal requirements associated with that classification of lift. Included: common, complex, critical, engineered lifts.</td>
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<tr>
<td>1.4 Given a classification of lift, explain the type of risk assessment that is required. Included: common, complex, critical, engineered lifts.</td>
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<tr>
<td>1.5 Explain what a PIPES Rigger must know about fall protection systems and procedures. Including, but not limited to: scaffold tags, barricading, tags, information on the tags, nets, lanyards, dog leashes, etc.</td>
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<tr>
<td>Hardware (Types and Applications)</td>
<td>19%</td>
</tr>
<tr>
<td>2.1 Explain the loading limitations, capacity, application, rejection criteria, and inspection associated with using a snatch block, shackles, cable clamps, beam clamps, hooks, come-alongs, chain falls, etc., for a horizontal or vertical lift.</td>
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<tr>
<td>2.2 Explain the correct orientation and sizing for various sizes and types of shackles when performing a lift or pull.</td>
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<tr>
<td>2.3 Identify various types of rigging equipment and their uses.</td>
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<tr>
<td>2.4 Given a scenario about a lift, identify the types of rigging equipment that would be appropriate to use and why. Included: common, complex, critical, engineered lifts.</td>
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<tr>
<td>2.5 Given a scenario about a lift, explain how a given piece of rigging equipment should be used. Included: common, complex, critical, engineered lifts.</td>
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<tr>
<td>Slings (Types and Applications)</td>
<td>14%</td>
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<tr>
<td>3.1 Explain the inspection procedures for various types of slings.</td>
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<tr>
<td>3.2 Explain the criteria for rejecting synthetic web slings.</td>
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<tr>
<td>3.3 Given a scenario involving work for a contractor, explain what to do with rejected slings.</td>
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</tr>
<tr>
<td>3.4 Identify what information should be found on various tags, certificates, and/or labels found on synthetic slings and what each piece of information means.</td>
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<tr>
<td>3.5 Identify what information should be found on various tags, certificates, and/or labels found on wire rope slings and what each piece of information means.</td>
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<tr>
<td>3.6 Identify what information should be found on various tags, certificates, and/or labels found on chain slings and what each piece of information means.</td>
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<tr>
<td>3.7 Explain proper storage requirements for slings and/or other rigging equipment.</td>
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<tr>
<td>3.8 Explain when and where to use a specific type of sling, given various situations and configurations.</td>
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<tr>
<td>Crane Operations (Types and Components)</td>
<td>8%</td>
</tr>
<tr>
<td>4.1 Explain what a PIPES Rigger should inspect on an overhead crane and why.</td>
<td></td>
</tr>
<tr>
<td>4.2 Identify various types of cranes and their components and applications. Including, but not limited to: cranes that are inside buildings, outside buildings, on the water, with different site conditions.</td>
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</tr>
<tr>
<td>4.3 Identify the hazardous conditions under which a lift should NOT take place. Including, but not limited to: wind, lightning, other weather conditions, people in the way, ground conditions, power lines, chemicals, etc.</td>
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<tr>
<td>4.4 Identify international crane rigging signals, explain what they mean, and when to use them, given a specific crane type.</td>
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</table>
### Exam Objectives

| 4.5 | Specify when and where a signaler would be required for a lift. |
| 4.6 | Given a scenario involving a blind lift, identify proper signaling procedures. |

<table>
<thead>
<tr>
<th>5</th>
<th>Math / Calculate Loads</th>
<th>15%</th>
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<tbody>
<tr>
<td>5.1</td>
<td>Given a specific lift scenario, calculate the gross and net weights for the loads. Including, but not limited to lifts using slings, blocks, line pulls, and other hardware.</td>
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<tr>
<td>5.2</td>
<td>Given a specific lift scenario, calculate stresses for the given equipment and configuration. Including, but not limited to lifts using slings, blocks, line pulls, and other hardware.</td>
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<tr>
<td>5.3</td>
<td>Given a specific lift scenario, calculate center of gravity for the given load.</td>
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<tr>
<td>5.4</td>
<td>Given a specific lift scenario, perform calculations for sling angle stress for a rigging operation.</td>
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<tr>
<td>5.5</td>
<td>Given a fiber rope, wire rope, or chains of a specific diameter or size, calculate working load limits (WLL) for that fiber rope, wire rope, or chain.</td>
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<tr>
<td>5.6</td>
<td>Perform calculations to determine total load for a rigging operation including primary load weight, rigging load weight and included content for a specific given vertical or horizontal application.</td>
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<tr>
<th>6</th>
<th>Pre-Lift Planning</th>
<th>8%</th>
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<tbody>
<tr>
<td>6.1</td>
<td>Given a specific lift scenario, determine the equipment placement for the lift, its path of travel, and its landing area.</td>
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<tr>
<td>6.2</td>
<td>List and explain the steps that must be completed before executing a common lift.</td>
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<tr>
<td>6.3</td>
<td>Define the criteria and implication of legislation where Work Load Limit (WLL)/Safe Working Limit (SWL) or encroachment exists. Examples include: power lines, live equipment, ground conditions, existing structures, personnel, etc.</td>
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<tr>
<td>6.4</td>
<td>Given a specific lift scenario, define the roles of the key personnel involved in a lift.</td>
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<th>7</th>
<th>Documentation</th>
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<tbody>
<tr>
<td>7.1</td>
<td>Identify different types of documentation required when planning a lift. Including, but not limited to: Engineered lifts, permits, and applicable local and provincial regulations, etc.</td>
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<tr>
<td>7.2</td>
<td>Given a specific piece of rigging equipment, identify the conditions under which it should be re-certified.</td>
<td></td>
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<tr>
<td>7.3</td>
<td>Given a specific lift scenario, identify which pre-job and post-job documentation will be required.</td>
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<tr>
<th>8</th>
<th>Execution of Rigging and Lift Procedures</th>
<th>12%</th>
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<tbody>
<tr>
<td>8.1</td>
<td>Define various methods used to control loads. Including, but not limited to: tag line, radio, hand signals, and spotters.</td>
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<tr>
<td>8.2</td>
<td>Given a load chart and lift scenario, select the appropriate slings when lifting pipes or other loads.</td>
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<tr>
<td>8.3</td>
<td>Given a description of a specific load and destination for a move, determine which factors should be considered when moving or lifting that load.</td>
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<tr>
<td>8.4</td>
<td>Define the four classifications of lifts. Included: common, complex, critical, engineered lifts.</td>
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<tr>
<td>8.5</td>
<td>List and/or order the steps that must be completed while executing a common lift.</td>
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<tr>
<th>9</th>
<th>Best Practice</th>
<th>7%</th>
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<tbody>
<tr>
<td>9.1</td>
<td>Given a specific lift scenario, determine best practice for executing that lift. Included, but limited to: what slings and hardware to use, placement of equipment, given weights, given angles.</td>
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</tr>
<tr>
<td>9.2</td>
<td>Describe best practice procedures that should be applied prior to making a lift. Including, but not limited to: use and placement of softeners, Shock loading, Inspection and rejection criteria, Rigging plan.</td>
<td></td>
</tr>
<tr>
<td>9.3</td>
<td>Determine the proper rigging for lifting a given weight. Including, but not limited to: rating of tension of the mechanical lifting device, Working Load Limit (WLL), safety limits, selecting the appropriate rigging, avoiding undersizing the rigging.</td>
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</tbody>
</table>
Salutation: [ ] First Name: [ ] Middle Initial: [ ] Last Name: [ ]  

**PROFESSIONAL / BUSINESS INFORMATION**  
Organization: [ ]  
Mailing Address: [ ]  
City/Prov/Postal Code: [ ]  
Phone No: [ ]  
Mobile No: [ ]  
E-Mail Address (REQUIRED): [ ]  
Job Title: [ ]  

**HOME ADDRESS**  
Mailing Address: [ ]  
City/Prov/Postal Code: [ ]  
Phone No: [ ]  
Alt. E-mail: [ ]  

**Correspondence should be sent to (SELECT ONE):**  
[ ] Business Address  
[ ] Home Address  

**PERMISSION TO PUBLISH INFORMATION on the CSA online Directory of Certified Personnel**  
PUBLISH: Please PUBLISH my professional contact information with my name and certification information on the CSA Group international online Registry of Certified Personnel. By checking this option, I grant CSA Group permission to list my name, certification number, company, business address, business phone and preferred e-mail.  

DO NOT PUBLISH: Please DO NOT PUBLISH my contact information. By checking this option, I grant CSA Group permission to list only my name, certification number, city and province.  

Certification is contingent upon meeting all program pre-requisites AND successful completion of the CSA Group P.I.P.E.S. Rigging Certification Examination.
THE FOLLOWING REQUIREMENTS MUST BE MET PRIOR TO TAKING THE CSA EXAM

- **Requirement 1: Proof of Qualification** -
  a.) Provincial Certificate of Qualification in a Piping Trade;  
  b.) Interprovincial Red Seal Certificate in a Piping Trade; 
  c.) Metal Trades Worker or Registered Apprentice*

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<th>Certificate Number:</th>
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* Equivalent evidence of status through employer documented hours with a min. of 2000 hours in a 3 year period of rigging work in the piping industry in a shop or production facility.

- **Requirement 2: Documented completion of 24 hours classroom training in rigging principles** (NAUSC rigging course or equivalent).

<table>
<thead>
<tr>
<th>Full Name of College, University or Training Centre</th>
<th>Program Name</th>
<th>Course Date(s)</th>
<th>Enter # of hours</th>
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</thead>
</table>

- **Requirement 3: Documented completion of 16 hours practical training** (NAUSC rigging course or equivalent).

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<tr>
<th>Full Name of College, University or Training Centre</th>
<th>Program Name</th>
<th>Course Date(s)</th>
<th>Enter # of hours</th>
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- **Requirement 4: Documented completion of Performance Testing consisting of 4 required lifts as set out in NAUSC rigging program** (NAUSC testing or equivalent).

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ALL CSA P.I.P.E.S. RIGGING CERTIFICATION EXAMINATIONS ARE DELIVERED BY COMPUTER AT NAUSC TRAINING CENTRES. Candidates will select a location and time once authorization has been given to complete the exam.

**Examination Option**  (SELECT ONE)

<table>
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<tr>
<th>Date</th>
<th>Time</th>
<th>Location</th>
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Computer Based Examination  Candidate selected  Candidate Selected  Candidate Selected
P.I.P.E.S. Rigging
Personnel Certification Application Form

Code of Ethics and Professional Conduct

This code of ethics sets forth the expectation that credential holders will commit to conducting themselves in a professional, honest and impartial manner. This code of ethics applies to all CSA Group Personnel Certification credential holders regardless of the certification designation, and includes the following professional conduct:

1. Provide equitable, honest and impartial treatment of customers;
2. Provide customers with accurate, objective, timely and understandable information;
3. Perform all services in a safe and professional manner;
4. Stay informed of and comply with all relevant laws, codes, regulations, standards and industry practices;
5. Protect proprietary and confidential information gained during the course of work; and
6. Promote positive activities which raise the level of professionalism of the industry.

Certification Terms and Conditions

1. I agree to notify CSA Group in a timely manner of changes concerning the information I have provided, including my current address, telephone number, and e-mail.
2. I have reported, and will continue to report, to CSA Group, within sixty (60) days of occurrence, any matters, proceedings, lawsuits, settlements and/or other agreements, administrative agency actions, or organizational actions relating to my profession or occupation, including all complaints relating to my professional activities, and matters or proceedings involving, but not limited to certification, credentialing, malpractice, disciplinary ethics or similar matters. I also agree to promptly report, within sixty (60) days of occurrence, any felony criminal charges, convictions, or plea agreements or other criminal charges, convictions, or plea agreements relating to acts of dishonesty or unethical conduct.
3. I agree that CSA Group has the right to communicate with any person, government agency or organization to review or confirm the information in this application or any other information related to my application for CSA Group for such review and confirmation.
4. I understand that the CSA Group credential status does not imply licensure, registration or government authorization to practice any specific job function or to engage in related activities.
5. I agree that all materials submitted to CSA Group become the property of CSA Group, and that CSA Group is not required to return any of these materials to me.
6. I agree that upon achieving the CSA Group credential, my name may be posted on the CSA Group website as part of an Online Registry to be created and maintained by CSA Group.
7. I agree that all disputes relating in any way to my application for a CSA Group certification and/or my involvement generally in a CSA Group certification program, will be resolved solely and exclusively by means of CSA Group policies, procedures and rules, including the stated appeals process.
8. CSA Group reserves the right to suspend or revoke my credential if it is determined I have failed to uphold, or otherwise breached this Agreement, or committed a violation of the CSA Group Code of Ethics and Professional conduct.
9. I release and indemnify CSA Group from all liability and claims that may arise out of, or be related to, my certification and related activities.

The Certification Application/Renewal Agreement may be revised periodically. I understand that it is my responsibility to obtain the most current copy online at: http://www.csa-america.org/personnel_certification

Application and Privacy Policy

I agree not to discuss or release in any form the contents of the exam. I affirm that all information provided in this application is correct. I agree to allow my name and certification information (and professional information if authorized above) to be posted on the CSA Group website as part of the online registry of certified personnel. CSA Group is committed to respecting the privacy of its members, customers, and other stakeholders with whom we interact in the development and delivery of products and services. CSA Group does not sell or share your contact information with other organizations for commercial purposes. I agree with this Privacy Statement and consent to CSA Group sending me from time to time information about other CSA products and services for which it believes I may have an interest.

As a CSA Group Personnel Certification credential holder, I agree to conduct myself in a professional and thorough manner. I agree to the Terms and Conditions of my certification including adherence to the Code of Ethics and Professional Conduct and I agree to adhere to the Application and Privacy Policy set forth by CSA Group.

Signature: ___________________________ Date: ________________