



*Canadian  
Registered  
Safety  
Professional  
Examination (CRSPEX)*

**CRSPEX  
CANDIDATE HANDBOOK**

*The CRSPEX is administered by the*  
**Board of Canadian Registered Safety Professionals (BCRSP)**

*In conjunction with the examination validation services of*  
**Assessment Strategies Inc (ASI)**

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## ***CRSPEX CANDIDATE HANDBOOK***

This *Handbook* contains current information about the certification examination (CRSPEX) developed by the *Certification and Examination Committee* of the Board of Canadian Registered Safety Professionals (BCRSP).

**IT IS YOUR RESPONSIBILITY TO READ AND UNDERSTAND THE CONTENTS OF THIS *CRSPEX CANDIDATE HANDBOOK* BEFORE WRITING THE CERTIFICATION EXAMINATION (CRSPEX).**

All previous versions of this *Handbook* are null and void

Please direct all correspondence, address changes, requests for information about the CRSP certification program to:

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All eligible candidates will receive notification of the next scheduled CRSPEX approximately eight weeks prior to the writing windows in May and October.

It is the candidate's responsibility to advise the BCRSP of their writing intentions by the due date identified on the CRSPEX notice.



### **Vision Statement**

A global leader in the certification of occupational health and safety professionals.

### **Mission Statement**

The Board of Canadian Registered Safety Professionals (BCRSP) sets the standard for the certification of occupational health and safety professionals in Canada to create the healthiest and safest workplaces in the world. Professionalism, high standards, continuous learning, and an established *Code of Ethics* drive the BCRSP.

### **Values**

The Board of Canadian Registered Safety Professionals (BCRSP) is committed to preservation of life and health, protection of the environment, confidentiality, professionalism and fairness.

The *Board of Canadian Registered Safety Professionals (BCRSP)* was established in 1976 to advance the profession of occupational health and safety through the development of a certification program. The BCRSP's *Governing Board* establishes policies, procedures and standards for certification and recertification (certification maintenance) in the field of occupational health and safety (OHS). The granting of the ***Canadian Registered Safety Professional (CRSP)®/Professionnel en sécurité agréé du Canada (PSAC)®*** designation by the BCRSP recognizes professional achievement through an individual's participation in this voluntary certification program.

### **Accreditation**

The BCRSP is accredited to ISO 17024:2003 (Personnel Certification Body) and to ISO 9001:2008 (Quality Management System).

### **Membership/Affiliation**

The BCRSP is a member of the Institute for Credentialing Excellence ([www.credentialingexcellence.org](http://www.credentialingexcellence.org)), the Canadian Network of National Associations of Regulators ([www.cnnar.ca](http://www.cnnar.ca)), the International Network of Safety and Health Organisations ([www.inshpo.org](http://www.inshpo.org)) and has a *Memorandum of Understanding (MOU)* with the Board of Certified Safety Professionals ([www.bcsp.org](http://www.bcsp.org)).

### **Statement of Nondiscrimination**

The CRSPEX is offered to all eligible candidates regardless of age, gender, race, religion, national origin, marital status or disability.



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## ***CRSP Program Overview***

### **Introduction to the CRSP Program**

The purpose of certification in the occupational health and safety (OHS) field is to promote excellence and professionalism. The program certifies individuals who have met the formal education and experience requirements and who demonstrate that they have acquired minimum, entry-level knowledge and expertise in this field by passing the Board's examination (CRSPEX).

The CRSP designation provides employers and the public with the assurance that certified individuals possess the necessary skills, knowledge and experience to perform competently.

The high standards of the certification program are ensured by the close working relationships among the BCRSP, OHS professionals and examination consultants.

The certification program is not designed to determine who is qualified or who shall engage in OHS activities. The goal is to promote excellence and professionalism by documenting individual performance as measured against a predetermined level of knowledge about OHS. A cooperative effort by the BCRSP, Assessment Strategies Inc (ASI) and practicing OHS professionals has resulted in defining the body of knowledge significant to the practice of OHS. It is these competencies that are included in the CRSPEX.

### **Management Services**

The BCRSP contracts with an independent association management company (AMC), Fletcher Wright Associates Inc. (FWA), to provide administrative support for the certification process and Board operations. The firm maintains Board records, handles finances, processes applications, CRSPEX administration, Certification Maintenance Program (CMP) and requests for CMP approvals. Contracting with an AMC provides a stable base from which the voluntary Board operates and serves as a conduit of information between individual CRSPs (certificate holders), candidates, the contracted examination consultants and the Board. Visit [www.fw.ca](http://www.fw.ca) for more information.

### **Testing Services**

Assessment Strategies Inc (ASI) is an independent testing company that performs professional assessment services. ASI is currently providing examination services to professional associations and credentialing agencies and independent certification boards. ASI carefully adheres to industry standards for development of practice-related, criterion-referenced examinations to assess competency. The firm offers a full range of services including: practice analyses and development of test specifications, psychometric guidance to committees of content experts during examination question writing, development of content-valid examination instruments, test administration, scoring and



reporting test result. Visit [www.asi.ca](http://www.asi.ca) for more information.

### Objectives of Certification

The objectives of the certification program for OHS professionals are to:

1. Promote professional standards and improve the practice of OHS;
2. Give special recognition to those professionals who demonstrate an acquired body of knowledge and expertise in the field through successful completion of the application, interview and examination (CRSPEX) process;
3. Identify for employers, the public and members of allied professions, individuals with acceptable knowledge of the principles and practice of OHS; and
4. Foster continuing competence and maintain the professional standard in OHS through the certification maintenance program (CMP).

### Definition of a Canadian Registered Safety Professional (CRSP)<sup>®</sup>/Professionnel en sécurité agréé du Canada (PSAC)<sup>®</sup>

The practice of OHS occurs in all sectors of business, industry and government, is performed by professionals with diverse educational and experience backgrounds and involves the knowledge, skills and abilities needed to perform the tasks significant to practice in the CRSPEX content outline (see *Blueprint for the Canadian Registered Safety*

*Professional Examination – Appendix A).*

*A Canadian Registered Safety Professional (CRSP)<sup>®</sup> is a person who through the integration of specialized knowledge, abilities, skills, attitude and judgement, applies the expertise of safety science and technology, safety and environment, occupational hygiene, fire prevention and protection, ergonomics, auditing, risk management, health and wellness and other professional safety domains. These domains serve to create or develop, along with other managers and leaders of business, government and academia, those policies designed to reduce the hazards that may harm people and the environment. The policies include the development of procedures, processes, standards, specifications and systems intended to achieve optimal control and maximum reduction of the hazards and/or damage to property, equipment and materials.*

The Certification and Examination Committee's goal is to produce examinations that test generic concepts that may be applied to any setting. Candidates who pass the CRSPEX must understand how each of the eleven domains (subject matter) – Accident Theory, Environmental Practices, Ergonomics, Fire Prevention and Protection, Health and Wellness, HSE Auditing, Law and Ethics, Occupational Health Safety and Environment Systems, Occupational Hygiene, Risk Management, Safety Techniques and Technology integrate



together to produce an effective and efficient OHS system.

### **Certification**

To become certified, eligible candidates must pass the CRSPEX. The CRSPEX is administered via computer based testing (CBT) in May and October at contracted test centres across Canada. Once approved by the Governing Board, certified professionals are entitled to use the designation “CRSP”/“PSAC”. The designation is valid from the date of approval by the Governing Board through to the end of the current calendar year. The designation is renewed annually by completing the *Declaration of Continuing Practice* and by paying an annual fee.

Each successful candidate receives a certificate that is suitable for framing, identification card, CRSP pin and *BCRSP Reference Manual*.

### **Recertification**

Following successful completion of the CRSPEX, each CRSP is required to maintain certification by fulfilling the requirements of the Certification Maintenance Program (CMP). Current full-time employment in the OHS field is required to maintain active CRSP status. The full details of the Certification Maintenance Program are described in the *BCRSP Reference Manual* and are posted on the web site ([www.bcrsp.ca](http://www.bcrsp.ca)).

The CMP is based on the calendar year with each cycle beginning on the first day of January following the date the CRSPEX was passed. The first CMP

cycle may be from one to five years – determined by the last digit of the assigned certification number. All subsequent cycles are five years. A minimum of 25 certification maintenance points must be earned over each five-year cycle (points are prorated for cycles less than five years).

For example, if you pass the May 2011 CRSPEX, your first CMP cycle officially begins January 1, 2012. However, CMPs earned in the period between the passing of the CRSPEX and the official start of the CMP cycle may be applied to the first year’s accumulation of points.

### **Eligibility Requirements**

In order to proceed to the writing of the CRSPEX, candidates must have successfully passed through the Qualifications Review Committee’s application assessment and the Regional Screening Centre’s interview.

Upon the recommendation of the Regional Screening Centre, candidates have two years to write the CRSPEX for the first time. Candidates who are unsuccessful in their first attempt may have up to three supplementary writings over the following two years. Candidates may apply for a one-year, one-time writing extension (fee is currently \$100). The writing extension may be applied to the first writing period or the supplementary writing period, but not both.

Each candidate must take the time to assess and judge his/her own readiness to write the CRSPEX.



A careful review of the eleven domains (147 competencies) identified in the *Blueprint for the Canadian Registered Safety Professional Examination* is essential before you make the decision to write.

The Certification and Examination Committee (CRSPEC) develops the CRSPEX in conjunction with Assessment Strategies Inc. to test the knowledge of entry-level OHS professionals on the competencies identified in the *Blueprint for the Canadian Registered Safety Professional Examination*. The CRSPEX is designed to test candidate's knowledge of the competencies expected of entry-level registered OHS professionals.

### **About the CRSPEX**

The CRSPEX is a criterion-referenced examination (A test that measures the degree of command of a specified content/skills domain or list of instructional objectives. Scores are interpreted in comparison to a predetermined performance standard, or as a degree of mastery of a defined domain independently of the results obtained by other candidates). A fundamental component of the development of the CRSPEX is a comprehensive description of the content domain being measured.

In the case of the CRSPEX, the content domain of interest consists of the competencies (behaviour statements that reflect the combined knowledge, abilities, skills, attitudes and judgment) a registered OHS professional is required to possess in order to practice safely

and effectively. These competencies form the basis of the CRSPEX.

The CRSPEX will consist of between 190 and 210 operational multiple-choice questions, i.e., questions appearing on the examination that have been approved by the CRSPEC. These questions count towards the candidate's score.

With 147 competencies to measure and a sound sampling approach for these competencies, an examination of between 190 and 210 operational questions is sufficient to make both reliable and valid decisions about an examinee's readiness to practice safely and effectively.

The multiple-choice questions of the CRSPEX are presented in one of two formats, case-based (a set of questions associated with a brief scenario) or independent questions (stand-alone examination questions that contain the information necessary for responding).

See Appendix B for sample CRSPEX questions.

Candidates should thoroughly review the *Blueprint for the Canadian Registered Safety Professional Examination*.

The Certification and Examination Committee is responsible for determining the CRSPEX content and the examination specifications, maintaining an item bank of approved examination questions, approving individual examinations for administration and setting the passing score.



The Certification and Examination Committee members form a representative group of practitioners. This committee reviews all examination questions before they are used and helps to provide the practice-related perspective that underlies valid examinations.

The BCRSP has contracted with ASI, a professional testing company, to provide psychometric guidance for the CRSPEX. ASI is responsible for the scoring, statistical analysis, test equating and test misconduct analysis.

### **Application Process to Write the CRSPEX**

The BCRSP neither sponsors, endorses nor financially benefits from any examination preparatory course.

You are not accepted or approved to take the CRSPEX by registering for a preparatory course offered by any provider. You **MUST** apply directly to the BCRSP.

Each candidate must submit a completed, signed and dated CRSPEX Notice along with a signed and dated CRSPEX Candidate Agreement to the BCRSP by the deadline date along with any applicable CRSPEX fees (CRSPEX Notices are issued to all eligible candidates approximately eight weeks in advance of each administration).

The Board of Canadian Registered Safety Professionals (BCRSP) has contracted with Kryterion to deliver all of its certification examinations by

computer at Kryterion test centres across Canada.

### **Examination Registration Process**

There are several steps necessary to confirm your examination date once you have received confirmation from the BCRSP that you are eligible to write the examination.

- 1) A CRSPEX Notice will be sent to all eligible candidates by the BCRSP approximately eight weeks in advance of each examination administration. You are required to return this form by a specified deadline along with any applicable CRSPEX fees to be able to write in the next writing window.
- 2) The CRSPEX is administered via Kryterion Testing Centres during specified writing windows in May and October. No alternate writing locations or times are permitted. Please note the availability of examination writing times at the majority of test centre locations is Monday-Friday during regular business hours.
- 3) You will receive an email with instructions to access the Kryterion Webassessor BCRSP Portal website where you will schedule your examination time/date (email will include a user id/password log-in).
- 4) You will receive a second email with a voucher code - you will need this voucher code in order to register for the examination.



- 5) Once you have your access information and voucher code, you may log-in to the Kryterion Webassessor BCRSP Portal website. You will need to schedule an appointment to sit your examination prior to 72 hours before the first date of the writing window (the writing window will be confirmed to you in step 1 above).
- 6) Once you have registered at one of the test centres to write the examination, you will receive a confirmation email. You **MUST** bring this email with you to the testing centre as it will contain an authorization code that is required by the proctor.
- 7) Candidates should arrive at the writing location no later than 15 minutes prior to the scheduled start time. Unscheduled or late candidates will not be admitted.

Please give yourself ample time to arrive at the test centre location. As many test centres are located within urban areas, parking may be limited and/or have a pay lot. Please plan accordingly. Some travel may be required as there may not be a test centre in your area.

The BCRSP strongly recommends that candidates do not schedule appointments immediately after the examination. If there are any technical interruptions in exam delivery you will require more than 3½ hours to complete your examination.

You are responsible for directly scheduling and keeping your

examination appointment with Kryterion. BCRSP strongly recommends you schedule your appointment as soon as you receive the log-in information and voucher code.

Local testing centres are not authorized to schedule, reschedule, cancel, or confirm examination appointments. Save all examination appointment confirmation e-mails until after you complete your examination.

If you have returned your CRSPEX Notice indicating you will write the examination and you fail to schedule an appointment and sit for your examination, you forfeit the examination writing opportunity unless you contact the BCRSP office at least five business days in advance of the first scheduled writing date in the examination window.

If you have scheduled an examination and fail to sit for your examination, you forfeit the examination writing opportunity and fees. You will have to register and pay for another CRSPEX. If it is your last writing opportunity your file will be closed.

### **Special Accommodations and Assistive Devices**

If you require special examination facilities or arrangements because of one or more documented disabilities, you must inform BCRSP of these needs at the time you return your CRSPEX Notice by completing the CRSPEX Special Accommodation Form (Appendix D). If at that time you fail to notify BCRSP of your special needs, you will not be accommodated when



you arrive for your examination appointment.

If you routinely use (or expect to use) external assistive devices or equipment such as crutches, a wheelchair, a cane, an optical prosthetic, or a hearing aid, you must inform BCRSP of your need to use these devices in the secure testing room at the time you return your CRSPEX Notice by completing the CRSPEX Special Accommodation Form. If you fail to inform BCRSP of your need to use external assistive devices, you may not be permitted to use those devices in the secure testing room.

### **Rules for Your CRSPEX Appointment**

To change an existing examination appointment, you must follow strict rules. If you fail to follow these rules, you forfeit your examination writing, and you will have to register and pay for a new CRSPEX writing.

- If you want to change the location of the testing centre, cancel or reschedule your examination, please contact the BCRSP office at [info@bcrsp.ca](mailto:info@bcrsp.ca) or (905) 567-7198 or 1-888-279-2777. Exams that are cancelled within 72 business hours of the scheduled writing time will be subject to a cancellation fee of \$100 plus GST/HST.
- You cannot reschedule your appointment to a date on or beyond the writing window.
- Plan to arrive early for your appointment. If you are 15 or more minutes late for your appointment,

you will forfeit your examination writing. You must bring two pieces of identification to the CRSPEX. At least one piece of identification must be valid, unexpired government issued identification document bearing both your picture and signature. The second piece of identification must be valid, unexpired bearing your name and signature. Your name on this identification document must match the name used when you applied for certification with BCRSP.

If you are not a citizen of Canada, the only acceptable identification document is your valid, unexpired passport.

If you fail to keep your scheduled examination appointment, if you arrive more than 15 minutes beyond the starting time of your scheduled appointment, or if you fail to present acceptable identification when you arrive for your scheduled appointment, you will be refused admission, and you will forfeit your examination writing. To sit for the examination after having been refused admission, you will have to register and pay for another CRSPEX writing. If it is your last writing opportunity your file will be closed.

As you sign in, the testing centre staff will provide you with blank paper and one pencil for calculations. A calculator is provided on-screen as a built-in function of the examination. Other than the materials provided by the testing centre staff, you cannot take any notes, books, writing utensils, papers, purses, hats, coats, jackets, pagers, mobile telephones, or other materials or electronic devices into the secure



testing room. You may access stored medicine or food or drinks outside the secure testing room. You may not access other personal belongings until you complete your examination.

### Taking Your Examination

The on-site proctor at the Kryterion Test Centre will familiarize you with the computer-delivered examination process and assist you in launching your examination. When your examination is first launched, you must agree to comply with BCRSP's examination security and nondisclosure rules. Once you complete these steps, your examination time will begin.

The time remaining for your examination appears on your computer monitor. One examination item at a time appears on the computer monitor on the left and the calculator and CRSPEX Formulas appears on the right. You may select an answer for the item, or skip the item. After viewing every item, you are presented with a review screen showing the item numbers and status of all items on your examination. By selecting an item on this screen, you can go directly to it and verify or change your answer selection.

During the course of your examination writing, it is possible that your examination may be interrupted if there is loss of data signal or if any other technical issues occur. If your examination screen should freeze or a message appears that your examination has been halted, please notify the on-site proctor immediately and they will resolve the problem. **You will not lose time for such interruptions.**

If you need to use the washroom, or when you leave your workstation for any reason, you must sign out and sign back in- the on-site proctor will log your activity. **Your examination clock continues to run during this time.** You are not allowed to leave the building (or part of the building) controlled by Kryterion for any reason while your examination clock is running.

BCRSP examinations are closed book, except for materials provided by testing centre staff or on-screen test aids as part of the examination. Once your examination clock starts, access to any materials beyond those given to you by testing centre staff is prohibited. BCRSP invalidates examinations and pursues disciplinary charges if you access prohibited materials, have contact with anyone except testing centre staff, leave the building while your examination clock is running, or engage in unethical, disruptive, or unprofessional conduct at a testing centre.

The CRSPEX is a proctored examination. Any incidences of test misconduct may result in the examination results being withheld or a determination of ineligibility. By participating in the CRSPEX you further agree to NOT disclose any information, content, examination questions or response keys from the BCRSP's CRSPEX by any means. If it is determined at any time that you have accidentally or deliberately disclosed information relating to the CRSPEX, it may result in your results being withheld, a determination of ineligibility for the designation, or if the designation has already been awarded, you may be subject to investigation by the Board's



Professional Conduct Committee which may result in suspension or termination of your designation.

### **Obtaining Your Results**

Once you submit your examination for scoring, you will receive email notification that your examination writing was completed and official notification of your results will be issued to you by the BCRSP within 6-8 weeks of the last date in the examination writing window. Kryterion transmits examination results to Assessment Strategies Inc (ASI) (the Board's Examination Consultant) at the end of each writing window. The BCRSP mails your official result and detailed score report to you. If you pass, you will receive the appropriate credentialing packet. If you do not pass, you receive instructions on how to retake the examination or when you may reapply if you have reached your last writing opportunity.

After marking and analysis is completed, the Certification and Examination Committee schedules a conference call to discuss the results particularly any poorly performing items identified by ASI.

ASI then prepares individual examination performance profiles that are sent to the BCRSP office to be forwarded to the candidates with a covering letter from the Board Chair.

### **Following the CRSPEX**

A CRSPEX questionnaire will be emailed to you approximately two to three weeks after your writing date. You are encouraged to submit your

comments as the Certification and Examination Committee reviews all submissions.

Approximately six to eight weeks following the CRSPEX administration, you will be mailed your results. You will be provided with your overall score and your score for each of the eleven subject areas (domains).

***To assure confidentiality, no candidate test scores will be reported over the telephone, by electronic mail or by facsimile.***

The BCRSP will not release a copy of individual score results to third parties without your written authorization.

### **Inclement Weather or Emergency**

In the event of inclement weather or unforeseen emergencies on the day of the examination, test centre personnel will determine whether circumstances warrant the cancellation of the CRSPEX writing. The examination will usually not be cancelled if the test centre personnel are able to open the test centre.

Every attempt will be made to administer examinations as scheduled. However, should an examination be cancelled, all scheduled candidates will be granted one writing extension to their two year writing period.

### **Security**

The BCRSP and ASI maintain test administration and test security standards that are designed to assure that all candidates are provided the



same opportunity to demonstrate their abilities.

The BCRSP reserves the sole right to cancel or withhold any test scores if, in its opinion, there is adequate reason to question their validity.

### **Passing Score Determination**

The standard or pass mark is set in reference to the content and the difficulty of the examination questions. The standard is set by a panel of content experts (all Canadian Registered Safety Professionals) from across Canada working closely with the Board's examination consultants, Assessment Strategies Inc. to ensure that the examination meets the Examination Blueprint guidelines.

The pass mark is set at a level that represents the performance expected of a competent safety professional.

The standard setting method used to establish the pass mark for the CRSPEX is the Angoff technique. Using this technique, the panel of content experts reviews each examination question and produces ratings based on a common understanding of a competent safety professional. In addition to these ratings, a variety of relevant data (for example, information on the preparation of candidates, data on results from previously administered examinations) are carefully considered to ensure the standard that candidates must achieve on the examination is valid and fair. Based on this information, an appropriate standard or pass mark is set.

Once an acceptable standard has been determined on a form of the examination, a statistical procedure can be performed to establish a corresponding standard on subsequent forms of the examination. This procedure, known as Test Equating, takes into account the difficulty of the set of questions on the original and subsequent forms as well as any differences that exists in candidate performance.

The pass mark of the original form is then carried forward and adjusted to reflect the differences in content difficulty and candidate performance on the new form of the examination. This statistical procedure ensures that all candidates, regardless of which examination form they write, must achieve an equivalent standard to successfully pass the examination.

### **Appeals**

Because the performance of each question on the CRSPEX included in the final score has been pretested, there is no appeal process to challenge individual CRSPEX questions, answers, or a failing score. The BCRSP will not release or discuss individual questions with candidates following the CRSPEX. To do so would require elimination of that question from the item bank of pretested questions and deplete the number of pretested questions required to develop future versions of the CRSPEX.

Assessments by the Qualifications Review Committee and Regional Screening Centres affecting the eligibility of a candidate or the points



awarded in Factors 1, 2 and 3, may be appealed.

Additionally, appeals may be considered for alleged inappropriate CRSPEX administration procedures or environmental testing conditions severe enough to cause a major disruption of the CRSPEX process which were not satisfactorily resolved at the test centre.

All appeals must be submitted in writing. Eligibility appeals must be received within thirty (30) days of the notification of your assessment results. Appeals for alleged inappropriate administration procedures or severe adverse environmental testing conditions must be received within thirty (30) days of the release of CRSPEX results.

### **Upon Successful Completion of the CRSPEX**

If you pass the CRSPEX, there are a number of administrative details that must be completed before you may begin using the CRSP designation.

Once approved to use the Canadian Registered Safety Professional and acronym CRSP®/Professionel en sécurité agréé du Canada (PSAC)®, you are encouraged to use the designation on correspondence, business cards and all forms of address. Certification is for individuals only. The CRSP designation may not be used to imply that an organization is certified.

### **If Your CRSPEX Writing is Unsuccessful**

If you do not pass the CRSPEX on your first attempt, you may have up to three supplementary writings over the following two-year period. If you do not pass the CRSPEX after four attempts, your file will be closed and you must wait two years before submitting a new application.



***Appendices***

**Appendix A**

2010 Examination Blueprint

**Appendix B**

Sample CRSPEX questions (items) with answers/ justifications

**Appendix C**

Process for the Development of Questions (items) for the Certification Examination (CRSPEX)

**Appendix D**

CRSPEX Special Accommodation Form



**APPENDIX A – 2010 Examination Blueprint**

***BLUEPRINT FOR THE  
CANADIAN REGISTERED  
SAFETY PROFESSIONAL  
EXAMINATION***

*June 2010*

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## ***EXECUTIVE SUMMARY***

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As part of its commitment to ongoing testing excellence, the BCRSP is pleased to provide this revalidated blueprint document that will serve as the basis for the Canadian Registered Safety Professional Examination (CRSPEX). This document outlines the content domain that will be tested on the national examination beginning in 2011.

Compared to the 2005 CRSPEX Blueprint, the following document differs in a number of ways. First, several content domains have been enhanced to provide additional guidance to item writers and to candidates who are preparing to write the CRSPEX. This is particularly evident in the HSE Auditing and Risk Management domains. In addition, the former Health Promotion domain has been renamed “Health and Wellness.” Second, the content areas of HSE Auditing, Risk Management, Health and Wellness, and Environmental Practices figure more prominently in this document compared to 2005, and as a consequence, are given more weight on the CRSPEX.

Third, the Accident Theory domain now mirrors the learning outcomes from the updated Accident Theory Study Guide that was published in 2009. Finally, although the basic structure of this document remains consistent with the 2005 document, a number of new content areas have been included to reflect evolving practice. These additions include a focus on various ISO quality standards and several other content areas that were added due to technological advances.



## PREFACE

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The Board of Canadian Registered Safety Professionals (BCRSP) is pleased to present the *Blueprint for the Canadian Registered Safety Professional Examination (CRSPEX)*. Administration of the first examination developed from the new Blueprint is targeted for May 2011.

The Blueprint was developed to guide those involved in the development of the *Canadian Registered Safety Professional Examination* and to provide the public (e.g., examinees, educators, administrators) with practical information about the examination.

The Blueprint has two major components: (1) the content domain to be measured and (2) the explicit guidelines on how this content is to be measured. The content domain consists of the CRSPEX set of competencies (i.e., the competencies expected of entry-level registered safety professionals), and the guidelines are expressed as structural and contextual variables. The Blueprint also includes: a *Summary Chart* that summarizes the examination guidelines; a *Glossary* that provides definitions of terms appearing in bold throughout the document; and a *Bibliography* of references which were used in creating the Blueprint, or which may interest readers who wish to study certain topics in greater depth.

BCRSP wishes to thank all the individuals who have contributed to the creation of this Blueprint. In particular, thanks are extended to CRSP certificate holders who responded to the competency validation survey.

A comprehensive review of this edition of the *Blueprint for the Canadian Registered Safety Professional Examination* is planned for 2015. In addition, the Blueprint will be evaluated annually to reaffirm that the competencies and the guidelines for examination development continue to reflect what is expected of an entry-level registered safety professional.

BCRSP encourages all users of this document to provide feedback which may be useful in future revisions of the Blueprint. Please forward all such comments to:

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## INTRODUCTION

The Board Canadian Registered Safety Professionals develops the Canadian Registered Safety Professional Examination (subsequently referred to as the CRSPEX) for registering purposes. It fulfills this service by working in collaboration with Canadian Registered Safety Professionals (CRSPs) from across Canada who serve as the content experts in developing and validating the examinations.

Registration/licensure/certification examinations have a well-defined purpose: to protect the public by ensuring that those who are licensed possess sufficient knowledge and skills to perform important occupational activities safely and effectively (Canadian Psychological Association, 1987). In the case of the CRSPEX, the purpose is to determine whether or not examinees are prepared to practice occupational health and safety, without risk to the public and to the environment.

*The purpose of this Blueprint is to describe how the examination is to be developed.*

The primary function of the Blueprint for the Canadian Registered Safety Professional Examination is to describe how the examination is to be developed. Specifically, this Blueprint provides explicit instructions and guidelines on how the **competencies**<sup>1</sup> (e.g., knowledge, abilities, skills, attitudes and judgment) are to be expressed within the examination in order for accurate decisions to be made on the ability of examinees to practice safely and effectively.

Prior to producing this Blueprint, the BCRSP undertook an extensive study to identify the competencies required for the safe and effective practice of registered safety professionals in Canada. CRSP certificate holders from across the country were active participants in all phases of the investigation, which served to identify and validate a comprehensive set of 147 competencies expected of the registered safety professional. With this set of competencies, and the validation data obtained, the essential components of the CRSPEX could be clearly described.

The periodic and comprehensive review of the competencies measured by the CRSPEX assists the BCRSP in maintaining the validity of the CRSPEX, and to develop psychometrically sound and legally defensible registration examinations. Because of changes that occur in the practice of health and safety professionals, a validation study of the competencies is conducted at least every five years, or as needed. In addition to the periodic comprehensive review and validation study, the competencies are reviewed and evaluated annually by content experts.

<sup>1</sup> The terms appearing in bold are defined in the Glossary.



## TECHNICAL SPECIFICATIONS

### COMPETENCIES

The following section presents the technical specifications that are to guide the development of the CRSPEX. In the first part, issues related to the competencies are addressed. The second part describes the guidelines to be followed in addressing the structural and contextual variables of the CRSPEX.

The CRSPEX is a **criterion-referenced examination**. That is, a fundamental component of the development of the CRSPEX is a comprehensive description of the content domain being measured. In the case of the CRSPEX, the content domain of interest consists of the competencies a registered safety professional is required to possess in order to practice safely and effectively. These competencies form the basis of the CRSPEX.

This section describes the competencies that were obtained as a result of the validation process, the way they have been grouped, and the manner in which they are to be sampled in the examination development process.

*The competencies were evaluated by approximately 1,000 Canadian Registered Safety Professionals.*

### DEVELOPING THE SET OF COMPETENCIES

As a starting point for developing a set of competencies, a Committee on Competencies was formed that was representative of all areas of practice of registered safety professionals in Canada. This committee reviewed various competency lists prepared for health and safety professionals. Using the competency lists, the committee developed a preliminary national set of competencies and an eleven-category classification to group these competencies. The competencies in this initial set were then evaluated by a sample of approximately 1,000 Canadian Registered Safety Professionals (CRSPs), including practitioners, educators and administrators, who were asked to rate each competency in terms of its applicability, importance and frequency for the registered safety professional. The Committee on Competencies reviewed the results of the survey and eliminated two competencies which were rated nationally as less applicable or were considered redundant with other competencies or eligibility requirement. In addition, three competencies were revised based on the survey results. The final set of competencies approved by the Certification and Examination Committee consisted of 147 competencies. The CRSPEX Set of Competencies has the primary purpose of providing the content domain for the examination.



## COMPETENCY CATEGORIES

The initial classification of the competencies consisted of the following eleven categories defined below (the number and the percentage of competencies are indicated in parentheses following the category name):

1. Accident Theory (4 competencies or 3% of the set of competencies)
2. Environmental Practices (7 competencies or 5% of the set of competencies)
3. Ergonomics (9 competencies or 6% of the set of competencies)
4. Fire Prevention and Protection (14 competencies or 10% of the set of competencies)
5. Health and Wellness (12 competencies or 8% of the set of competencies)
6. HSE Auditing (12 competencies or 8% of the set of competencies)
7. Law and Ethics (19 competencies or 13% of the set of competencies)
8. Occupational Hygiene (18 competencies or 12% of the set of competencies)
9. Occupational Health Safety and Environment Systems (17 competencies or 12% of the set of competencies)
10. Risk Management (8 competencies or 5% of the set of competencies)
11. Safety Techniques and Technology (27 competencies or 18% of the set of competencies)

Some of the competencies lend themselves to being placed in one or more of the categories, so these eleven categories should be viewed simply as an organizing framework. It should be recognized that the competency statements vary in scope, with some representing global activities and others more discrete and specific actions.



The CRSPEX Set of Competencies (By Group) is presented in the Appendix. The competencies have been grouped using the importance and frequency ratings obtained in the competency validation study.

*The CRSPEX Set of Competencies presents the competencies grouped on the basis of the ratings from the validation survey.*

### **COMPETENCY GROUPS AND WEIGHTINGS**

To ensure that the examination accurately reflects the profile of the registered safety professional, the competencies were grouped according to their relative importance and frequency based on the survey ratings and a quantitative review by content experts.

Group 1 consists of the 80 competencies identified as very important; Group 2 consists of the 67 competencies identified as important for the safe and effective practice of registered safety professionals.

These groups were used to establish the relative weights the competencies will receive on the examination.

### **COMPETENCY SAMPLING**

Based on the applicability, importance and frequency data extracted from the 2010 Competency Survey, and with the guideline that the CRSPEX will consist of between 190 and 210 questions (see "Examination Length and Format"), the sampling scheme presented in Table 1 was developed. The distribution of weights in this sampling scheme was selected: (1) to provide differentiation on the rating variables (importance and frequency); and (2) to conform with the examination length requirement.

TABLE 1: COMPETENCY GROUPING AND SAMPLING

Very Important Competencies Group 1: 80 competencies	65-75% of the CRSPEX
Important Competencies Group 2: 67 competencies	25-35% of the CRSPEX

**GUIDELINES**

In addition to the specifications related to the competencies, other variables must be considered during the development of the CRSPEX. This section presents the guidelines for the following two types of variables:

Structural Variables: Structural variables include those characteristics that determine the general appearance and design of the examination. They define the length of the examination, the format/presentation of the examination questions (e.g., multiple-choice format). The weightings of the eleven categories are also included as structural variables.

Contextual variables: Contextual variables qualify the content domain by specifying the contexts in which the examination questions will be set (i.e., professional context).

*There will be 190 to 210 operational multiple choice questions on the Canadian Registered Safety Professional Examination.*

**STRUCTURAL VARIABLES**

1. Examination Length and Format: The examination will consist of between 190 and 210 operational multiple choice questions.
  - a. With 147 competencies to measure and a sound sampling approach for these competencies, an examination of between 190 and 210 operational questions is sufficient to make both reliable and valid decisions about an examinee's readiness to practice safely and effectively.
2. Question Presentation: The multiple choice questions of the CRSPEX are presented in one of two formats, case-based or independent questions.
3. Weighting of Competencies by Category: For the purpose of this Blueprint, the eleven categories of the competencies are: (1) Accident Theory; (2) Environmental Practices; (3) Ergonomics; (4) Fire Prevention and Protection; (5) Health and Wellness; (6) HSE Auditing; (7) Law and Ethics; (8) Occupational Hygiene; (9) Occupational Health Safety and Environment Systems; (10) Risk Management; and (11) Safety Techniques and Technology



*Table 2 presents the percentage range of questions in each of the ten categories of competencies.*

TABLE 2: WEIGHTING OF COMPETENCIES BY CATEGORY

Categories for the Competencies	Percentage of Questions on the CRSPEX
Accident Theory	2-4%
Environmental Practices	3-5%
Ergonomics	4-8%
Fire Prevention and Protection	6-10%
Health and Wellness	5-7%
HSE Auditing	6-10%
Law and Ethics	10-14%
Occupational Hygiene	12-16%
Occupational Health Safety and Environment Systems	12-16%
Risk Management	4-8%
Safety Techniques and Technology	18-22%

### CONTEXTUAL VARIABLES

*The Canadian Registered Safety Professional Examination represents the different focus of practice of registered safety professionals.*

Professional Context: It is recognized that the practice environment of entry-level registered safety professionals may be any setting of circumstance within which occupational health and safety can be practiced. The competencies assessed by the examination are not setting dependent. The practice environment will be specified when necessary.

In each setting, the CRSP may act as a consultant or as an in-house safety professional. This will be considered in forming the context of examination items.



## **CONCLUSION**

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The *Blueprint for the Canadian Registered Safety Professional Examination* is the product of a collaborative effort between the BCRSP and Canadian Registered Safety Professionals (CRSPs). Their efforts have resulted in a compilation of the competencies required of the entry level registered safety professional to practice and of the guidelines on how the competencies will be measured on the CRSPEX. A summary of these guidelines can be found in the Summary Chart: CRSPEX Development Guidelines.

It is recognized that the health and safety profession will continue to evolve. As this occurs, the Blueprint (i.e., the competencies and the test development guidelines) may require revision so that it accurately reflects the scope of practice, roles, and responsibilities of the entry level safety professional. The BCRSP will ensure this revision takes place in a timely manner and will communicate it in updated editions of this document.

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## Summary Chart: CRSPEX Development Guidelines

COMPETENCIES																							
<b>Group 1 -Very important competencies 65-75% of the CRSPEX</b>	<b>Group 2 -Important competencies 25-35% of the CRSPEX</b>																						
STRUCTURAL VARIABLES																							
Examination Length and Format	190–210 operational multiple choice questions. Three and a half (3.5) hours will be allocated for the completion of the examination.																						
Question Presentation	<table> <tr> <td>Independent questions</td> <td>70-90% of questions</td> </tr> <tr> <td>Case-based questions</td> <td>10-30% of questions</td> </tr> </table>	Independent questions	70-90% of questions	Case-based questions	10-30% of questions																		
Independent questions	70-90% of questions																						
Case-based questions	10-30% of questions																						
Competency Categories and Weightings	<table> <tr> <td>Accident Theory</td> <td>2-4%</td> </tr> <tr> <td>Environmental Practices</td> <td>3-5%</td> </tr> <tr> <td>Ergonomics</td> <td>4-8%</td> </tr> <tr> <td>Fire Prevention and Protection</td> <td>6-10%</td> </tr> <tr> <td>Health and Wellness</td> <td>5-7%</td> </tr> <tr> <td>HSE Auditing</td> <td>6-10%</td> </tr> <tr> <td>Law and Ethics</td> <td>10-14%</td> </tr> <tr> <td>Occupational Hygiene</td> <td>12-16%</td> </tr> <tr> <td>Occupational Health Safety and Environment Systems</td> <td>12-16%</td> </tr> <tr> <td>Risk Management</td> <td>4-8%</td> </tr> <tr> <td>Safety Techniques and Technology</td> <td>18-22%</td> </tr> </table>	Accident Theory	2-4%	Environmental Practices	3-5%	Ergonomics	4-8%	Fire Prevention and Protection	6-10%	Health and Wellness	5-7%	HSE Auditing	6-10%	Law and Ethics	10-14%	Occupational Hygiene	12-16%	Occupational Health Safety and Environment Systems	12-16%	Risk Management	4-8%	Safety Techniques and Technology	18-22%
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## GLOSSARY

*The following is a list of definitions of health and safety, and testing terms as used in the Blueprint.*

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**case-based questions:** A set of questions associated with a brief scenario.

**competencies:** The behaviour statements which reflect the combined knowledge, abilities, skills, attitudes, and judgment expected of an entry level registered safety professional.

**criterion-referenced (C-R) examination:** A test that measures the degree of command of a specified content/skills domain or list of instructional objectives. Scores are interpreted in comparison to a predetermined performance standard, or as a degree of mastery of a defined domain (e.g., percent correct and mastery scores), independently of the results obtained by other candidates. (Brown, 1983)

**independent items:** Stand-alone objective examination items which contain the information necessary for responding.

**operational questions:** Questions appearing on the examination that have been pre-tested and that are suitable for the examination. The answer to these questions count in the candidate's score.

## BIBLIOGRAPHY

*The following is a list of references which were used in creating the Blueprint, or which may interest readers.*

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# APPENDIX

## THE CRSPEX

### SET OF COMPETENCIES (BY GROUP)

G1:65-75% CRSPEX G2:25-35% CRSPEX
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<b>ACCIDENT THEORY (AT)</b> <b>(4 competencies)</b>		
AT1	Possess a basic understanding of why the theories and models are important in the practice of OHS&E.	G1
AT2	Possess a basic understanding of the various theories and models (e.g. ergonomics, engineering, psychology).	G2
AT3	Possess a basic understanding of how accident theories may influence the development of an OHS&E management system.	G1
AT4	Possess a basic understanding between accident theory and the Internal Responsibility System (joint worker/management responsibility and accountability), a philosophy underlying some OHS&E legislation in Canada.	G1
<b>ENVIRONMENTAL PRACTICES (EP)</b> <b>(7 competencies)</b>		
EP1	Possess a basic knowledge of the fundamental objectives, principles and components of an Environmental Management System (EMS).	G2
EP2	Possess basic knowledge of ISO 14001 requirements.	G2
EP3	Have a basic knowledge of Federal environmental and related legislation such as the Canadian Environmental Protection Act; the Hazardous Products Act; the Transportation of Dangerous Goods Act.	G2
EP4	Understand the fundamental concepts and principles of environmental auditing including roles, responsibilities and activities involved.	G2
EP5	Understand what emergency preparedness is with respect to the management of hazardous chemicals and material.	G1
EP6	Possess basic knowledge of site contamination and environmental assessments.	G2
EP7	Possess basic knowledge of sustainable development as it relates to resource conservation and management, and environmental monitoring and reporting.	G2
<b>ERGONOMICS (ERG)</b> <b>(9 competencies)</b>		
ERG1	Possess a basic knowledge of the anatomical, physiological and biomechanical principles of ergonomics.	G2
ERG2	Identify the common signs, symptoms that contribute to workplace musculoskeletal injuries.	G1



ERG3	Possess the basic knowledge of the human cognitive, sensory and psychomotor abilities and limitations so that the CRSP may understand how mental workload, stress and other factors can affect human abilities and work performance.	G2
ERG4	Be able to recognize and evaluate ergonomic hazards and identify appropriate ergonomic control measures.	G1
ERG5	Understand the range of government intervention in ergonomics; regulations, guidelines and enforcement.	G2
ERG6	Select and apply ergonomic methodologies such as surveys, checklists, psychophysical scales, direct observation and interviews.	G2
ERG7	Describe the components of a successful ergonomics program.	G2
ERG8	Demonstrate an understanding of the basic principles of ergonomic models.	G2
ERG9	Be able to identify and describe when ergonomics should be applied in the workplace.	G1
<b>FIRE PREVENTION AND PROTECTION (FPP)</b> <b>(14 competencies)</b>		
FPP1	Identify the major roles played by the National Fire Prevention Association, Underwriters Laboratory, Factory Mutual and Canadian Standards Association.	G2
FPP2	Articulate the purpose of the National Building Code and the National Fire Code.	G2
FPP3	Possess basic knowledge of fire chemistry and fire behaviour allowing the CRSP to understand how fires start, burn and spread, and how fires can be prevented and extinguished.	G1
FPP4	Understand the essential elements of a fire safety program and demonstrate how the program may be integrated with the OHS&E management system.	G1
FPP5	Understand the roles of industrial fire brigades and how fire prevention fits into emergency planning.	G2
FPP6	Demonstrate an understanding of the safe use, handling, storage, disposal and the associated risks in a fire condition with chemicals, explosives and radioactive material in the workplace.	G1
FPP7	Understand the importance of hazard determination and the proper procedures for the handling of combustible solids, combustible metals, and plastics in the workplace, as it relates to fire safety.	G1
FPP8	Possess knowledge of the basic principles of building construction and understand the importance of considering life safety factors such as facility location, layout and building materials in the early stages of building planning.	G2
FPP9	Understand approaches for assuring life safety and understand the building codes and facility practices.	G2
FPP10	Have a basic understanding of the different types of fire detection systems, their advantages and disadvantages.	G2
FPP11	Possess basic knowledge of the fire control systems.	G2



FPP12	Understand the basic principles of fire sprinkler and portable extinguisher maintenance and inspection.	G2
FPP13	Understand the basic principles of the fire department incident command system (ICS), and outline the ways that safety professionals interact with fire officials during emergency situations.	G2
FPP14	Understand elements of an emergency preparedness and response plan, identify major types of natural and man-made emergencies and plan for business continuity before, during and after an emergency.	G1
<b>HEALTH AND WELLNESS (HW) (12 competencies)</b>		
HW1	Possess a basic understanding of health promotion (e.g. blood pressure screening, weight loss, stress management, etc.) in the workplace.	G2
HW2	Possess a basic understanding of health protection programs (e.g. flu vaccines, blood borne pathogen vaccine, etc.).	G2
HW3	Possess a basic knowledge of Employee Assistance programs.	G2
HW4	Possess a basic knowledge of some components of a wellness program (e.g. stress management, physical fitness and weight management).	G2
HW5	Be able to identify key features of a violence prevention program.	G2
HW6	Possess a basic understanding of the effects of shift work on the health of some workers.	G2
HW7	Identifies key features of a disability management program (e.g. modified work, rehabilitation, etc.).	G1
HW8	Identify some key features of addiction control programs (e.g. smoking, drugs, alcohol, gambling).	G2
HW9	Understand the factors that lead to health and wellness (e.g. environmental, genetic, social, economic, physiological and lifestyle).	G2
HW10	Possess an understanding of how factors in the workplace can impact employee well being (e.g. culture, multiple generations, diversity, and aging workforce).	G2
HW11	Understand how the psychosocial work environment influences employee health.	G2
HW12	Understand how work/life balance influences employee health.	G2
<b>HSE AUDITING (AUD) (12 competencies)</b>		
AUD1	Possess knowledge of established OHS&E audit principles and techniques.	G1
AUD2	Demonstrate the application of audit data collection techniques (e.g. interviews, records, sample size).	G1
AUD3	Understand the components of an OHS&E management system.	G1
AUD4	Possess the ability to interpret and analyze audit data to generate recommendations and drive continuous improvement.	G1
AUD5	Understand the difference between an internal and external audit.	G1



AUD6	Demonstrate a broad knowledge of facility operations including equipment and processes.	G1
AUD7	Possess basic knowledge of interviewing, verifying, evaluating, communicating and reporting skills.	G1
AUD8	Possess knowledge required to develop, apply and improve auditing tools and processes.	G2
AUD9	Understand the difference between a compliance audit and a management system audit.	G1
AUD10	Understand the difference between an inspection and an audit.	G1
AUD11	Understand the audit process (e.g. preparation, opening and closing meetings, communication and final report, etc.).	G1
AUD12	Understand the requirements of CSA Z1000, OHSAS 18001 when developing an audit tool.	G2
<b>LAW AND ETHICS (LE) (19 competencies)</b>		
LE1	Possess a basic understanding of occupational health and safety law in Canada (e.g. due diligence).	G1
LE2	Possess a basic understanding of the principles of Common Law.	G2
LE3	Possess a basic understanding of the principles of Compensation Law.	G2
LE4	Demonstrate an understanding of environmental legislation.	G2
LE5	Demonstrate an understanding of the duties of workplace parties in all applicable jurisdictions.	G1
LE6	Possess a basic understanding of liability related to property ownership.	G2
LE7	Possess a basic understanding of product liability as it relates to OHS&E.	G2
LE8	Demonstrate an understanding of the roles and functions of health and safety committees and representatives.	G1
LE9	Possess a basic understanding of ethical theories.	G2
LE10	Possess an understanding of the right to refuse unsafe work and the right to know.	G1
LE11	Possess an understanding of the powers of the inspectors, the Orders to Comply, the appeal process and prosecutions.	G1
LE12	Understand the obligations to employers and co-workers.	G1
LE13	Understand the obligations to the public.	G1
LE14	Understand the obligations to fellow professionals.	G1
LE15	Understand the BCRSP's <i>Code of Ethics</i> .	G1
LE16	Understand the consequences of professional errors or omissions.	G1
LE17	Understand the principles and obligations relating to conflict of interest.	G1
LE18	Able to apply codes of professional conduct.	G1
LE19	Understand the limits of the CRSP professional practice.	G1



<b>OCCUPATIONAL HYGIENE (OH)</b> <b>(18 competencies)</b>		
OH1	Possess basic knowledge of anatomy, physiology and some pathology related to occupational hygiene (e.g. lungs, ears, eyes and skin).	G1
OH2	Possess basic knowledge of occupational toxicology and routes of entry of toxic materials into the body.	G1
OH3	Possess basic knowledge of the physical characteristics and hazards associated with gases, vapours, solvents, fumes, mists and dusts.	G1
OH4	Possess basic knowledge of physical hazards including industrial noise, ionizing and non-ionizing radiation, thermal stress and vibration.	G1
OH5	Maintain knowledge of emerging technology and trends (e.g. nanotechnology).	G2
OH6	Possess basic knowledge of biological hazards.	G1
OH7	Possess basic knowledge of indoor air quality.	G1
OH8	Demonstrate an understanding of the evaluation process of occupational hygiene (e.g. air, noise and radiation sampling).	G1
OH9	Possess basic knowledge of ventilation; local, general, supply and exhaust.	G2
OH10	Possess basic knowledge of a respiration protection program.	G1
OH11	Understand the role of the occupational hygienist.	G2
OH12	Possess knowledge of Occupational Exposure Limits (OELs), Threshold Limit Values (TLVs), Biological Exposure Indices (BEIs), action levels and ALARA.	G1
OH13	Understand the concepts around the hierarchy of controls (e.g. administrative, engineering).	G1
OH14	Able to use basic sampling equipment in order to measure ambient and baseline levels.	G2
OH15	Possess basic knowledge of lasers.	G2
OH16	Possess basic knowledge of biohazards (e.g. H1N1, anthrax) management, infection transmission and control.	G2
OH17	Possess basic knowledge of mould and mycotoxins.	G2
OH18	Possess basic knowledge of occupational disease (e.g. asthma, chemical and environmental sensitivity, dermatitis and cancer).	G2
<b>OHS&amp;E MANAGEMENT SYSTEMS (OES)</b> <b>(17 competencies)</b>		
OES1	Possess a basic knowledge of organizational structure and function.	G1
OES2	Possess a basic knowledge of total quality management.	G2
OES3	Identifies key features of management processes (e.g. planning, organizing, leading, measuring performance and controlling).	G1
OES4	Possess basic knowledge of budgeting, economic decision making and long range planning.	G2
OES5	Demonstrate an understanding of problem solving process.	G1
OES6	Demonstrate an understanding of how to manage conflict.	G1



OES7	Demonstrate a basic understanding of labour relations including union/ management committees.	G2
OES8	Understand the need for effective planning, including strategic and long range planning.	G1
OES9	Identify key features of different leadership and communication styles.	G2
OES10	Understand the basic concepts of innovation and change.	G2
OES11	Understand the basic methods of motivation.	G1
OES12	Possess knowledge of training needs analysis development, delivery and evaluation.	G1
OES13	Demonstrate an understanding of adult learning principles.	G1
OES14	Possess a basic knowledge of mediation and facilitation as it relates to OHS&E issues.	G2
OES15	Identify key features of ISO 9000 and other quality standards.	G2
OES16	Understand basic concepts around current safety management principles.	G1
OES17	Demonstrate an understanding of how to develop, implement, evaluate and continuously improve an OHS&E management system (e.g. CSA Z1000, OHSAS 18001).	G1
<b>RISK MANAGEMENT (RM)</b> <b>(8 competencies)</b>		
RM1	Possess knowledge of risk management principles.	G1
RM2	Demonstrate an understanding of how to conduct a risk assessment (e.g. estimation, evaluation)	G1
RM3	Demonstrate an understanding of controlling identified risks.	G1
RM4	Understand the difference between hazard and risk.	G1
RM5	Possess knowledge of Process Safety Management.	G2
RM6	Possess knowledge of CSA Z1000, OHSAS 18001, CSA Z731-03 (R2009) as they relate to risk management.	G2
RM7	Understand the guiding principles for decision making in risk management (e.g. weight of evidence, precautionary principle, ALARA).	G2
RM8	Possess an understanding of the steps used to implement, monitor, evaluate and continuously improve a workplace health and safety risk management program.	G1
<b>SAFETY TECHNIQUES AND TECHNOLOGY (STT)</b> <b>(27 competencies)</b>		
STT1	Demonstrate an understanding of the basic principles of workplace inspections.	G1
STT2	Demonstrate an understanding of the basic principles of incident/accident investigation.	G1
STT3	Demonstrate an understanding of the basic principles of task analysis.	G1



STT4	Demonstrate an understanding of the basic principles of material/process flow analysis.	G2
STT5	Demonstrate an understanding of the basic principles of process hazard analysis (e.g. fault tree and event tree analysis).	G2
STT6	Possess a basic knowledge of facilities, from their general design, layout, construction and maintenance.	G2
STT7	Able to address all safety requirements through involvement at the design stage of projects.	G1
STT8	Possess basic knowledge of safeguard systems such as: point-of-operation protective devices, point-of-operation safeguards, the guarding of power transmission, robotics safeguarding, control of hazardous sources and the maintenance and servicing of such devices.	G1
STT9	Possess basic knowledge of personal protective equipment.	G1
STT10	Possess basic knowledge of electrical safety.	G1
STT11	Possess basic knowledge of materials handling and storage.	G1
STT12	Possess basic knowledge of hoisting and conveying equipment, including ropes, chains and slings.	G1
STT13	Possess basic knowledge of powered industrial trucks.	G1
STT14	Possess basic knowledge of heavy vehicle safety.	G2
STT15	Possess basic knowledge of hand and portable tools.	G1
STT16	Possess basic knowledge of maintenance shop machinery (e.g. wood, plastics and metalworking).	G2
STT17	Possess basic knowledge of hot work (e.g. welding and cutting).	G1
STT18	Possess basic understanding of electrical bonding and grounding.	G1
STT19	Possess basic knowledge of hazardous energy control program (e.g. lockout and tagout).	G1
STT20	Possess basic knowledge of hazards associated with automated systems, equipment or processes (e.g. robotics, conveyors).	G2
STT21	Possess basic knowledge of chemical process safety.	G1
STT22	Possess basic knowledge of confined spaces.	G1
STT23	Possess basic knowledge of fall protection.	G1
STT24	Possess basic knowledge of pressure hazards and protection (e.g. hydraulic, pneumatic, steam, etc.).	G1
STT25	Able to identify design deficiencies based on past performance in order to improve workplace OHS&E.	G1
STT26	Able to apply the knowledge to design record keeping systems allowing for collection, storage, maintenance and retrieval.	G2
STT27	Possess a basic knowledge of laboratory safety.	G2

**APPENDIX B Sample CRSPEX questions (items) with answers/ justifications****Sample CRSPEX Questions (items) with Answers/Justifications*****Accident Theory (AT)***

1. *Unwanted energy flow is:*

- A. Uncontrolled energy flow that can be directed to do unwanted work.
- B. A high-energy component involved in an energy release.
- C. A by-product of high-energy environment production.
- D. A term used in the field of stress management.

2. *ISMEC is the acronym for:*

- A. Illustrating work, Starting task, Mentoring worker, Estimating difficulty, Commending success.
- B. Illuminating roles, Sending signals, Managing stress, Evaluating performance, Counting mistakes.
- C. Identification of work, Standards established, Measuring performance, Evaluating performance, Correcting deficiencies (and commending success).
- D. Identification of risks, Standards of performance, Managing people, Evaluating performance, Correcting mistakes (and commending success).

***Environmental Practices (EP)***

3. *A medium size company that continually engages in environmentally hazardous activities has:*

- A. Considered the potential effects of failing to have a corporate environmental policy.
- B. Staffed technically competent professionals with environmental responsibility.
- C. Failed to consider the potential benefits of an active environmental management system.
- D. Funded environmental programs with senior management commitment.

4. *One purpose of an environmental audit is to:*

- A. Assess the management systems related to environmental issues.
- B. Review environmental risks associated with the site and site operation.
- C. Identify staff with environmental responsibilities.
- D. Review training records of staff tasked with handling environmentally sensitive substances.

**Ergonomics (ERG)**

5. *One kind of muscular effort can be described as static. Static effort is characterized as:*

- A. An alternation between contraction and extension of the muscles.
- B. Tension and relaxation of the muscles.
- C. A prolonged state of contraction of the muscles.
- D. Change in rhythm of the muscle length.

6. *When evaluating repetitive work, the key factors to be considered include:*

- A. The average number of lifts per minute over a fifteen-minute period.
- B. The duration of the shift and the repetition rate and recovery time provided.
- C. The position of the joints when the task is performed; the force exerted and the repetition rate or amount of recovery time provided.
- D. The level of fatigue and boredom that may affect the worker's ability to perform the task well.

**Fire Prevention and Protection (FPP)**

7. *A systematic approach to fire protection systems' inspection, testing and maintenance should follow guidelines established by the manufacturers and by:*

- A. NFPA
- B. NRC
- C. Factory Mutual
- D. Underwriters' Laboratories

8. *In Canada, the National Building Code and the National Fire Code are developed under the:*

- A. Underwriters Laboratories Canada Inc.
- B. Factory Mutual
- C. Canadian Standards Association
- D. National Research Council

**Health and Wellness (HW)**

9. *A treating physician can provide the following information to the employer about an injured worker:*

- A. The patient's treatment for healing
- B. A diagnosis of patient's condition.
- C. A prognosis of patient's condition.
- D. Any restrictions on patient activities.



10. A strategy that gives structure and organization to the activity of returning injured workers to the workplace as soon as possible following a work related accident is a definition of a:

- A. Modified Work Program
- B. Claims Management Program
- C. Vocational Rehabilitation Program
- D. Disability Management Program

***Law and Ethics (LE)***

11. A 'procedural' approach to regulation:

- A. Sets a general standard that you must meet without much concern about how you meet it.
- B. Sets out the requirements of procedural justice.
- C. Sets out the rules of the Court.
- D. Sets out detailed rules telling you how to reach a standard.

12. A 'privative clause':

- A. Is a provision in a contract that is secret.
- B. Is a clause that concerns the legal right to hygiene facilities in the workplace.
- C. Prevents a person from appealing an administrator's decision.
- D. Prevents people from opting out of the OHS system through contract.

***Occupational Health Safety and Environment Systems (OES)***

13. The effective manager in the emerging workplace recognizes as foundational goals:

- A. High productivity and low operating costs.
- B. High performance and low labour conflict.
- C. High performance and satisfaction among team members.
- D. High productivity and low loss rates.

14. In the field of management theory, "Theory Z" refers to:

- A. High-risk, potentially high-return preferences.
- B. Managing by cultural norms.
- C. Adherence to Japanese management principles.
- D. Eastern European management principles.

**Occupational Hygiene (OH)**

15. A worker in a noisy environment was monitored for 8 hours and subject to the following exposures. 4 hrs at 80dBA (allowable exposure time 24 hours), 2 hrs at 85dBA (allowable exposure time 8 hrs), and 2 hours at 90dBA (allowable exposure time 2 hrs). During the 8 hours was the worker:

- A. Overexposed.
- B. At the allowable exposure level.
- C. Not overexposed.
- D. Significantly overexposed.

16. Which chemical exposure was associated with a liver cancer called angiosarcoma?

- A. Trichloroethylene.
- B. Vinyl chloride
- C. Lead
- D. Asbestos

**Risk Management (RM)**

17. The safety practitioner will approach risk management as:

- A. A management system directed at influencing worker behaviour, with emphasis on worker safety and health.
- B. A system designed to manage quality and process safety.
- C. A system-wide assessment of risks and risk control, with emphasis on worker safety and health.
- D. A responsibility for the safety practitioner to document all workplace related risks and develop controls for the identified risks.

18. Perceptions of risk may affect the tolerance for certain types of hazards. Which of the following may bias the judgement of one of the affected parties?

- A. Scientific evidence not containing sufficient evidence to support a potential for harm.
- B. Value assumptions; or, subjective interpretations of evidence based on personal or societal values.
- C. The principle of achieving a technically agreeable control measure.
- D. All occupational hazards should be measure using the 'precautionary principle'.

**Safety Techniques and Technology (STT)**

19. The term 'protective factor' in respiratory protection is used to describe:

- A. The overall life expectancy the user can expect to get from the equipment.
- B. The overall effectiveness of a respirator and the nature of contaminants.
- C. The degree of inhalation resistance the equipment's material has been rated for.
- D. The amount of training the wearer is required to have before using the equipment.



20. *Portable conveyors are equipped with skirtboards or sideboards because:*

- A. They permit access to the point of operation.
- B. They provide complete guarding of the in-running nip hazard.
- C. They prevent operators from reaching into the conveyor.
- D. They keep material from falling over the sides.

***HSE Auditing (AUD)***

21. *What are two major classifications of documents that are reviewed in an audit?*

- A. Policies and procedures.
- B. Directive documents and blank forms.
- C. Directive documents and operational records.
- D. Minutes of JHSC meetings and operational records.

22. *What is the best description of a health and safety audit?*

- A. A workplace inspection conducted by trained auditors.
- B. A secondary tool for assessing the health and safety legislative compliance.
- C. A gap analysis between the company's current oh&s management system and a set of standards.
- D. A workplace inspection conducted by health and safety professionals.

23. *When conducting a document review of inspection reports, what sample of documents should the auditor review?*

- A. All of the inspection reports for the last three years.
- B. A representative sample of inspection reports sufficient enough for the auditor to assess them.
- C. The most current five inspection reports.
- D. Whichever inspection reports the company representative provides to the auditor.

24. *What type of audit would involve reviewing a policy statement, then checking training records, equipment and log books?*

- A. Compliance Audit.
- B. Claims Management Audit.
- C. Management System Audit.
- D. Performance Audit.



### *Case Study - Occupational Hygiene (OH)*

Occupational dermatitis represents one of the most common forms of occupational disease. The significance of dermal [skin] absorption in terms of overall body burden of chemicals is still largely unknown.

In 1997, a single incident focused the attention of health and safety professionals on to the seriousness of dermal exposure. A professor of chemistry died of mercury intoxication, days after a brief exposure to dimethyl mercury. The occasion occurred in the laboratory when the chemical leaked across a latex glove.

1. *How could this fatality have been prevented?*

- A. The ventilation rate in the laboratory fumehood could have been increased, thereby increasing the evaporation rate.
- B. The professor of chemistry should have recognized the hazard and taken appropriate precautions.
- C. The glove selection should have been impermeable to the chemical used.
- D. The latex glove may have been old or compromised.

2. *How could a safety practitioner have assisted in a prevention program?*

- A. The CRSP could have checked the fumehood flow rate and set out a regular maintenance schedule.
- B. The CRSP could have completed a risk assessment, noting the chemicals and PPE in use.
- C. The CRSP could have initiated a chemical inventory program for the laboratory.
- D. The CRSP could have completed a risk assessment, noting the chemicals and PPE in use, for the laboratory manager with recommended controls.

3. *What is the most common approach used to assess skin exposure to a contaminant?*

- A. Biological monitoring is commonly used to assess total body burden of chemical contaminants.
- B. Critical flux is the dose resulting from inhalation exposure combined with dermal exposure.
- C. Using pads or dosimeters to determine the amount of contaminant deposited on the skin.
- D. There is no recognized approach to assess skin exposure to a contaminant.

**ANSWERS FOR SAMPLE CRSPEX QUESTIONS AND CASE STUDY*****Accident Theory (AT)*****Question 1: Correct answer - B**

*Justification:* The choice of A is clearly wrong with the inclusion of the words ‘unwanted work’. C and D are distracters using ‘by-product’ and ‘stress management’ inappropriately. The energy models discussed in the Study Guide emphasize the release of unwanted energy as a component of accident causation.

*Source:* BCRSP’s *Guide to Registration – Accident Theory (AT) Study Guide*, Energy Models (Ball’s Energy Model) and CAN/CSA-Z796-98

**Question 2: Correct answer - C**

*Justification:* This illustrated an important change in accident theory between the earlier Bird theory along with Heinrich’s original model of ‘blaming’ the worker for accidents, and a shift to a systems or management control model. A, B and D were all used as distracters in this question.

*Source:* BCRSP’s *Guide to Registration – Accident Theory (AT) Study Guide*, Bird’s up-dated accident sequence.

***Environmental Practices (EP)*****Question 3: Correct answer: C**

*Justification:* All of the answers could apply to a medium size company; however, the question relates to ‘continual risky activities’ and therefore the only correct answer would be C.

*Source:* *Accident Prevention Manual for Business and Industry*, 2nd Edition, Environmental Management, National Safety Council, p. 343-344

**Question 4: Correct answer: B**

*Justification:* The audit is conducted to ‘review environmental risks’ not ‘assess’ or ‘identify’. Training records of staff should be part of the company personnel safety and environmental procedures and do not form part of an environmental audit process.

*Source:* *Accident Prevention Manual for Business and Industry*, 2nd Edition, Environmental Management, National Safety Council, p. 347

**Ergonomics (ERG)**

Question 5: Correct answer: C

*Justification:* The correct answer is related to only one state; static, means virtually unmoving. Therefore 'a prolonged state of contraction' clearly describes the circumstance.

*Source:* *Fitting the Task to the Human*, 5<sup>th</sup> Edition, K.H.E. Kroemer and E. Grandjean, Taylor and Francis, p. 7

Question 6: Correct answer: C

*Justification:* Although all of the answers contain some element of truth, C is the only one that gathers all of the factors together; duration, rate, force and repetition/recovery.

*Source:* *Accident Prevention Manual for Business and Industry*, 12<sup>th</sup> Edition, Administration and Programs, National Safety Council, Ergonomic Program Repetitive Work, p. 405

**Fire Prevention and Protection (FPP)**

Question 7: Correct answer: A

*Justification:* NFPA Standards have been adopted by many Canadian jurisdictions giving them the force of law when referenced in a regulation or code. B, C, and D all refer to standard making organizations; however their guidelines and standards often defer to, or reference the National Fire Protection Association Standards.

*Source:* BCRSP's *Guide to Registration – Fire Prevention and Protection (FPP) Study Guide*, Care, Maintenance and Inspection and *The Fire Safety Management Handbook*, 2<sup>nd</sup> Edition, Daniel E. Della-Giustina, Ph.D., American Society of Safety Engineers

Question 8: Correct answer: D

*Justification:* The NRC develops the Codes on a consensus basis through committees of various stakeholders.

*Source:* BCRSP's *Guide to Registration – Fire Prevention and Protection (FPP) Study Guide*, Care, Maintenance and Inspection and *The Fire Safety Management Handbook*, 2<sup>nd</sup> Edition, Daniel E. Della-Giustina, Ph.D., American Society of Safety Engineers

**Health Promotion (HP)**

Question 9: Correct answer: D

*Justification:* Confidentiality of medical information limits the physician's ability to provide the employer with any information on the patient other than that described in D.

*Source:* *Disability Management: Theory, Strategy and Industry Practice*, Dianne Dyck, Butterworths



Question 10: Correct answer: D

*Justification:* The key to this question is the descriptor, ‘strategy that gives structure and organization’. Thus, a disability management program may contain all the other programs in its scope.

*Source:* *Disability Management: Theory, Strategy and Industry Practice*, Dianne Dyck, ISBN 0-433-42413-3, Butterworths

***Law and Ethics (LE)***

Question 11: Correct answer: D

*Justification:* A regulation is the detailed legal authority, whereas an Act is the basic legal authority. Some jurisdictions are including performance standards into their procedural regulations; this will allow the organization to measure their procedures against the minimum legal standard for compliance.

*Source:* *Occupational Health and Safety Law*, Dr. Peter Strahlendorf, CRSP, School of Occupational and Public Health, Ryerson University

Question 12: Correct answer: C

*Justification:* Workers’ compensation is a provincial matter. The study guide confirms that CRSP’s need to know the various compensation regimes in which they operate. Privacy clauses exist in compensation law to limit the appeal process. For example: ‘an action or decision of the \_\_\_\_\_ under this Act is final and is not open to question or review in a court.’

*Source:* *Occupational Health and Safety Law*, Dr. Peter Strahlendorf, CRSP, School of Occupational and Public Health, Ryerson University

***Occupational Health Safety and Environment Systems (OES)***

Question 13: Correct answer: C

*Justification:* The author emphasizes that C result in sustained performance of the team members.

*Source:* BCRSP’s *Guide to Registration – Occupational Health Safety and Environment Systems (OES)* Study Guide, “Managers and Organizations”

Question 14: Correct answer: C

*Justification:* The answer is discussed in the study guide under OES, Comparative Management Practices. Theory Z (Wm. Ouchi) refers to Japanese management practices and business success.

*Source:* BCRSP’s *Guide to Registration – Occupational Health Safety and Environment Systems (OES)* Study Guide, “Comparative Management Practices”

**Occupational Hygiene (OH)**

Question 15: Correct answer: A

*Justification:* Without regard for possible differences in jurisdictional approach to allowable exposure to noise, the participant is being asked to solve this question using a mathematical formula available in most hygiene resource manuals. When the daily noise exposure is composed of two or more periods of exposure at different levels, the combined effect should be considered. If the sum of the fractions of the exposure exceeds 100%, then the mixed exposure should be considered to exceed the allowable limit value.

$$D = \frac{C_1}{T_1} + \frac{C_2}{T_2} + \frac{C_3}{T_3} + \dots + \frac{C_n}{T_n}$$

D = dose; C = exposure time at a particular level; T = total time allowed at that noise level.

*Source:* BCRSP's *Guide to Registration – Occupational Hygiene (OH) Study Guide* and *The Occupational Environment – Its Evaluation and Control*, Salvatore R. DiNardi, Editor, American Industrial Hygiene Association, Noise, Chapter 20, p. 436

Question 16: Correct answer: B

*Justification:* This association of chemical exposure to vinyl chloride monomer, resulting in a rare form of liver cancer, has been published in occupational hygiene literature for the past 15 years.

*Source:* *The Occupational Environment – Its Evaluation and Control*, Salvatore R. DiNardi, Editor, American Industrial Hygiene Association, Occupational Toxicology, p. 81

**Risk Management (RM)**

Question 17: Correct answer: C

*Justification:* C is the only possible correct choice, as risk management has nothing to do with 'influencing worker behaviour' or 'quality and process safety'. It is no longer acceptable to 'blame the worker' as a result of assessing risk. Nor does risk management direct the safety practitioner to 'develop controls' for all identified risks.

*Source:* BCRSP's *Guide to Registration – Risk Management (RM) Study Guide*, What is Risk Management Source listed, "Risk Management; a Primer for Canadians", 1.1-1.3

Question 18: Correct answer: B

*Justification:* The correct answer contains language that should be a dead give-away, 'subjective interpretation' based on 'personal values'.

*Source:* BCRSP's *Guide to Registration – Risk Management (RM) Study Guide*, Decision Making in Risk Management Primer, 1.12-1.18

***Safety Techniques and Technology (STT)***

Question 19: Correct answer: B

*Justification:* The assigned protective factor (APF) of respirators has been published by NIOSH and ANSI. The three other possible answers are all distracters.

*Source:* BCRSP's *Guide to Registration – Safety Techniques and Technology (STT) Study Guide and Accident Prevention Manual for Business and Industry*, 12<sup>th</sup> Edition, Administration and Programs and Engineering and Technology, National Safety Council, personal protective equipment

Question 20: Correct answer: D

*Justification:* There may be an element of truth to A, B and C; however, skirting and sideboards describe a specific control to prevent material from falling from a conveyor. Portable conveyors require the same level of guarding as do fixed conveyor systems.

*Source:* *Accident Prevention Manual for Business and Industry*, 12<sup>th</sup> Edition, Administration and Programs and Engineering and Technology, National Safety Council, personal protective equipment, p. 481

***HSE Auditing (AUD)***

Question 21: Correct answer: C

*Justification:* Both items in A and B relate to directive documents and both items in D are operational records.

*Source:* BCRSP's *Guide to Registration – OHS Auditing (AUD) Study Guide*, p. 17.

Question 22: Correct answer: C

*Justification:* The audit is not an inspection, nor is it used to address compliance issues; it is specifically a tool measuring the status of the health and safety management system compared to established standards (which make up the audit instrument elements and sub elements). The gap between the system and the standard is addressed with recommendations.

*Source:* BCRSP's *Guide to Registration – OHS Auditing (AUD) Study Guide*, p. 3.

Question 23: Correct answer: B

*Justification:* The auditor must ensure that sufficient documentation is reviewed to be able to evaluate a company's health and safety system.

*Source:* BCRSP's *Guide to Registration – OHS Auditing (AUD) Study Guide*, p. 19.



Question 24: Correct answer: A

*Justification:* A compliance audit looks at regulations and/or company policy and measures the level of compliance.

*Source:* BCRSP's *Guide to Registration – OHS Auditing (AUD) Study Guide*, p. 17.

***Case Study (Occupational Hygiene)***

Case Study 1: Correct answer: C

*Justification:* A is clearly wrong, as the ventilation plays no role in this scenario. B is wrong as we must not 'blame the worker' and the professor may have known all the chemical hazards related to the dimethyl mercury, but was unaware of the permeability of the selected latex glove. \*Please refer to the Accident Theory (AT) domain with regard to safety systems and Fault Tree analysis. The latex is the culprit here as it readily breaks down in the presence of solvents and was not the glove material of choice. D has no import, as the age or condition of the latex would not have mattered in this case.

*Source:* *The Occupational Environment – Its Evaluation and Control*, Salvatore R. DiNardi, Editor, American Industrial Hygiene Association, Dermal Exposure, p. 286

Case Study 2: Correct answer: D

*Justification:* The answer includes all aspects of the CRSP's role, identifying risk, recommending controls and presenting the findings to a supervisor in charge of the workplace.

*Source:* *The Occupational Environment – Its Evaluation and Control*, Salvatore R. DiNardi, Editor, American Industrial Hygiene Association, Dermal Exposure, p. 286

Case Study 3: Correct answer: C

*Justification:* A is correct but has no relationship to the question. B is also correct but talks about a definition of a particular dose, not exposure. D is incorrect by any standard.

*Source:* *The Occupational Environment – Its Evaluation and Control*, Salvatore R. DiNardi, Editor, American Industrial Hygiene Association, Dermal Exposure, p. 286



## APPENDIX C Process for the Development of Questions (items) for the Certification Examination (CRSPEX)

This document outlines the process used by the Board of Canadian Registered Safety Professionals (BCRSP) in the development of CRSPEX questions (items). Multiple-choice questions are developed to assess a sample of the knowledge, skills, abilities, attitudes and judgments (**competencies**) expected of an entry-level registered safety professional. There are two types of multiple-choice questions on the CRSPEX – case-based and independent.

### **CASE-BASED MULTIPLE-CHOICE ITEMS**

A case is a set of two or more multiple-choice items associated with a brief scenario. The scenario (case text) is written prior to formulating the associated items. The following guidelines are used by item writers in developing cases:

- Describe an ohs&e situation.
- Write the case in simple, concise and precise language.
- Provide all necessary information but do not include extraneous information that may confuse the candidate.

### **INDEPENDENT MULTIPLE-CHOICE ITEMS**

There are four steps followed when multiple-choice items are developed: (1) the competency is examined, (2) the stem is created, (3) the correct response is written and (4) the distracters are formulated.

#### *Step 1: Examine the Competency*

- The competency must be read and thoroughly understood.
- If the meaning of a competency is not understood, one of the other item writers or the item writing facilitator must be consulted.
- The item is written to reflect the competency.

#### *Step 2: Create the Stem*

- The stem must be presented as a complete sentence.
- As much of the wording as possible is written in the stem, rather than in the options.
- The stem must be clear and concise providing all of the necessary information to enable the candidate to select an option.
- The stem must be stated in a positive form.

#### *Step 3: Write the Correct Response*

- Current reference texts/articles (published within the past 5 years) must be cited to identify the correct response. If it is difficult to locate a reference that relates directly to the content of a particular item, the reference chosen must support the general principle addressed in the question. References should be well-known and easily accessible to the candidate.



- A response must be provided that experts are likely to agree on as the *best* of the options provided. A correct response cannot be chosen that is contradicted by other reference sources.

#### *Step 4: Formulate the Distracters*

- An important feature of the correct response is omitted or an incorrect or irrelevant feature is introduced.
- The types of errors less proficient candidates are likely to make should be anticipated.
- All of the distracters must be plausible and homogeneous (e.g., if the stem asks for an action, each option must be presented as an action).

### **DEVELOP RATIONALES**

By providing a rationale for why the correct response is correct, the likelihood of creating an inaccurate or ambiguous question will be minimized. The following guidelines are used:

- The rationale must indicate why an option is correct. The explanation does not need to be exhaustive.
- The rationale may be written in point form.

### **GROUP REVIEW OF ITEMS**

Each item is presented to the item writing group for comments and suggestions. When the group has agreed that an item meets the guidelines for CRSPEX questions, the item is approved. This activity verifies the quality and accuracy of the items that are developed.

### **REVIEW OF ITEMS BY CRSPEC**

The Certification and Examination Committee (CRSPEC) reviews and approves items prior to their adoption and use on the CRSPEX.

### **ESSENTIAL STEPS TO CREATE QUALITY CRSPEX ITEMS**

- Ensure that the item measures the targeted competency.
- Direct the difficulty level of the question toward the entry-level registered safety professional.
- Avoid textbook language and technical jargon. Use simple language.
- Avoid sex bias and racial or cultural stereotypes.
- Phrase items in the third person (e.g., What should **the registered safety professional** recommend?) because the use of the second person (e.g., What would **you** recommend?) introduces an element of subjectivity into the question.
- Ensure consistency in spelling. If a word does not appear in the dictionary, an accepted current publication may be used as a reference for spelling.
- Express units of measurement according to the International System of Units (SI).
- Avoid the use of abbreviations, except for common, standard ones. When using acronyms, write the term in full, followed by the acronym in parentheses. Subsequent citations of the term within a question need only include the acronym..
- Make all of the options comparable in length.
- Make all of the options grammatically consistent with the stem.



- Avoid the repetition of key words or phrases in each option.
- Do not use “All of the above,” “None of the above,” or combined responses (e.g., A and B) as options.
- When developing case-based items, do not put any information in the stem that will guide the candidate in correctly answering other questions within the case.



**APPENDIX D – CRSPEX Special Accommodation Form**

***Accommodation Request Form***

A component of the BCRSP’s Values Statement includes a commitment to “fairness”. In that regard the Board that the CRSPEX is accessible to all candidates, including candidates with disabilities. For candidates unable to take the BCRSP’s examination (CRSPEX) using the standard testing equipment or within the standard CRSPEX time frame (3 ½ hours), the Board will make all reasonable efforts to accommodate candidate needs.

Candidates must complete and submit this form at least three weeks prior to registering for an examination. The Board will respond to your request within two weeks prior to the examination date. Candidates requesting accommodation must complete section A of this form. An appropriate professional (education professional, doctor, psychologist, psychiatrist, etc.) must complete section B of this form to verify that the candidate’s condition requires the requested examination accommodations.

***The information requested below, and any documentation regarding the candidate’s need for accommodation in testing, will be considered strictly confidential and will not be shared without the candidate’s express written permission.***

Please submit the completed form to the BCRSP via email (info@bcrsp.ca). Please attach the form as a scanned document that includes the verifying authority’s signature. The completed form may also be faxed to the Board office (905-567-7191).

**A. APPLICANT INFORMATION**

Name	
Address (including postal code)	
Telephone	
Email	
Kryterion Testing ID (if known)	

Examination date and location for which you are requesting accommodation:

\_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_



**Accommodation Request Form**

**B. DOCUMENTATION OF ACCESSIBILITY NEEDS**

I have known \_\_\_\_\_ since \_\_\_\_\_  
(examination candidate name) (date)

In my capacity as a \_\_\_\_\_  
(professional title)

I have read the accompanying description of potential accessibility barriers and understand the nature of the examination to be administered and I verify that I have documentation on record supporting the need for accommodation. I believe that this candidate should be provided the following accommodations (identify relevant accommodations):

- Accessible testing site (eg. Ramp for wheelchairs)
- Amanuensis (recorder of answers)
- Extended writing time – identify amount of extra time requested \_\_\_\_\_ hour(s)
- Extra time for breaks – specify frequency and duration \_\_\_\_\_
- Reader (person to read examination items aloud)
- Separate testing room
- Sign language interpreter
- Special chair (specify type) \_\_\_\_\_
- Special input device, such as a trackball mouse (specify type) \_\_\_\_\_
- Special output device, such as a larger monitor (specify type) \_\_\_\_\_
- Other (please describe in the space below)




**Accommodation Request Form**

**Justification for accommodation (include description of condition):**


**Contact information for professional verifying accommodation needs:**

Professional’s Name	
Professional Title	
Licence number and type (if applicable)	
Telephone	
Email	

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**POTENTIAL ACCESSIBILITY BARRIERS**

The BCRSP’s examination presents the following potential accessibility barriers.

**Manual**  
Candidates must use a mouse to point-and-click and navigate from one question to the next. All questions on the CRSPEX are multiple choice. For further information on the CRSPEX, please review the *Examination Blueprint* in the *Examinations* section of the Board’s website ([www.bcrsp.ca](http://www.bcrsp.ca)).

**Optical**  
Reading text – examination questions are written at a reading level appropriate to the content. The computer based examination (CBT) questions must be read on a monitor. The font can be as small as 10 point.

**Physical Stamina**  
The examination is 3 ½ hours.

Please contact the BCRSP office if more information is required in order to decide what accommodation may be necessary (905-567-7198, 888-279-2777, [info@bcrsp.ca](mailto:info@bcrsp.ca)).