



Examination Guide for Recertification

Industrial Radiography

Ultrasonics

Magnetic Particle

Liquid Penetrant

Eddy Current

Version 2
2016-05-11

Canada



Overview of NRCan National Non-destructive Testing Certification Body Services

Natural Resources Canada (NRCan) manages Canada's nation-wide program for the certification of individuals performing non-destructive testing (NDT). The NRCan National NDT Certification Body (NDTCB) recertifies individuals according to CAN/CGSB-48.9712-2014 / (ISO 9712:2012, IDT) standard.

In performing this function, NRCan carries out the following tasks:

- a) Examines the information provided by the applicant to ensure that the applicant has the basic education, NDT training and experience required by the standard;
- b) Prepares, administers and evaluates both written and practical examinations;
- c) Maintains a network of exam centres across Canada for both written and practical examinations;
- d) Recertifies candidates as specified by the standard.

In undertaking the administration of the program, NRCan attempts to provide the unbiased Canada-wide services required to implement a national program. A set of Scheme, Technical and Advisory Committees composed of stakeholders and individuals knowledgeable about NDT in Canada advises NRCan on the operation of this program.

IMPORTANT NOTICE

The candidate is responsible to ensure the Authorized Examination Centre (AEC) has the specific specimen information indicated on the candidate's examination admittance and registration form prior to the date of the scheduled practical exam. Failure to do this may delay the start time of the recertification exam and increase cost to the candidate.

Examination(s) required for recertification:

- **Level 1:** Recertification by practical examination (two practical examination specimens).
- **Level 2:** Recertification by practical examination (two practical examination specimens) and written instruction.
- **Level 3:** Recertification by level 2 practical examination (two practical examination specimens) and a choice between either a written (multiple choice) examination or the option of a Structured Credit System.

A candidate who fails to achieve a grade of at least 70% on the recertification examination may retake the recertification examination according to the following criteria and schedule:

- Candidates will be allowed a maximum of three (3) rectification examination attempts as per CAN/CGSB-48.9712-2014 / (ISO 9712:2012, IDT).
- According to paragraph 11, section 2, subsection 2: The time period to retake level 1 and 2 recertification examinations shall not exceed six (6) months.
- According to paragraph 11, section 3, subsection 3: The time period to retake level 3 recertification examinations shall not exceed twelve (12) months unless otherwise extended.
- The NDT Certification Body reserves the right of choice for written or practical components.

Additional information/instruction may be provided to the candidate at the start of the recertification examination.

The NDTCB may have implementation rules and policies that can supersede the information provided within this guide.



Contact Information

NDT Certification Body

CANMET Materials Technology Laboratory
Natural Resources Canada
183 Longwood Road South
Hamilton, Ontario
Canada L8P 0A5

Telephone: 866-858-0473
Web Site: <http://ndt.nrcan.gc.ca>

Ce guide est aussi disponible en français à l'adresse suivante :

Organisme de certification en END
Laboratoire de la technologie des matériaux de CANMET
Ressources naturelles Canada
183 Rue Longwood Sud
Hamilton (Ontario)
Canada L8P 0A5

Téléphone : 866-858-0473
Site Web : <http://ndt.nrcan.gc.ca>



Table of Contents

<u>Industrial Radiography</u>	Page 5
<u>Level 1 Engineering, Materials and Components Sector Recertification Examination</u>	Page 5
<u>Level 2 All Sectors Recertification Examination</u>	Page 6
<u>Level 2 Engineering, Materials and Components Sector Recertification Examination</u>	Page 7
<u>Level 2 Aerospace Sector Recertification Examination</u>	Page 8
<u>Ultrasonics</u>	Page 9
<u>Level 1 Engineering, Materials and Components Sector Recertification Examination</u>	Page 9
<u>Level 2 Engineering, Materials and Components Sector Recertification Examination</u>	Page 10
<u>Magnetic Particle</u>	Page 11
<u>Level 2 Engineering, Materials and Components Sector Recertification Exam</u>	Page 11
<u>Liquid Penetrant</u>	Page 12
<u>Level 2 Engineering, Materials and Components Sector Recertification Examination</u>	Page 12
<u>Eddy Current</u>	Page 13
<u>Level 1 Engineering, Materials and Components Sector Recertification Examination</u>	Page 13
<u>Level 2 Engineering, Materials and Components Sector Recertification Examination</u>	Page 14
<u>Level 3 All Methods</u>	Page 16
<u>Level 3 All Sectors Recertification Examinations</u>	Page 16
<u>Level 3 Structured Credit System for Recertification</u>	Page 17
<u>Table A: Structured Credit System Activities and Accorded Points</u>	Page 18

Note: All examination times are shown in increments of ½ day or 1 day, ½ day shall be considered 4 hours and 1 day shall be considered 8 hours. Any request for accommodation of special needs (such as additional exam time) can only be provided with approval by the NCB, following its Guidelines for Special Accommodations. The accommodations provided shall be noted on the Candidates Admittance Form or documentation in support of the examination.



Industrial Radiography

Level 1 E.M.C. Sector Recertification Examination

The duration of the Level 1 Industrial Radiography practical recertification examination is 4 hours (½ day).

The level 1 Industrial Radiography practical recertification examination is closed book. No books or notes other than those provided will be permitted during the exam. A scientific calculator may be used provided it does not contain information or establish programs which provide solutions to examination problems.

The candidate will be required:

- To complete two (2) practical exam specimens as indicated on the candidate's examination admittance and registration form.

Each Level 1 Industrial Radiography practical recertification exam is evaluated in the following two (2) areas:

- I. Follow and complete the Radiographic Techniques for the 2 exam specimens.
- II. General Safety.

The candidate will be given adequate instruction in the operation and placement of equipment and accessories required to produce the required results safely.

Candidates' questions will be answered unless the question is an exam requirement. An invigilator may refuse to answer any question he or she considers to be part of the exam.

The candidate may or may not be required to develop his/her own film. This decision will be made by the exam invigilator. The candidate is not allowed to bring or use his/her own equipment or film and is not allowed to take parts or film away from the exam centre.

If, for any reason, the candidate must deviate from the supplied technique the circumstances for this deviation must be stated and supported by the exam invigilator.

Coverage of the exam specimens:

The limits of coverage will be indicated in the technique provided. The candidate will produce results as indicated by the technique. Upon completion of the two techniques **all** film, both used and unused, will be handed in to the examiner along with the sample techniques. **NO** paper or film is allowed to leave the exam centre.

Candidates will be given the opportunity to give feedback concerning the practical exam. After completing the exam, the candidate will complete the comment sheet and place it into the return envelope with the exam paper(s). The comment sheet will then be sent to the NDTCB along with the exam in the sealed return envelope.

Note: There is concern about candidates who appear confused and unsure of themselves while attempting their practical exam. It is the prerogative of the invigilator to discuss this situation with the candidate and, if necessary, terminate the practical exam. All such actions, as well as any special assistance given to the candidate, must be reported to the examiner on the invigilator's assessment sheet.



Industrial Radiography

Level 2 All Sectors Recertification Examination

The duration of the Level 2 Industrial Radiography practical recertification examination is 8 hrs (1 day).

Each Level 2 Industrial Radiography recertification exam is evaluated in the following three (3) areas:

- I. Radiographic Techniques as indicated on the candidate's examination admittance and registration form.
- II. Film Interpretation;
- III. General Safety.

Information concerning these evaluated areas can be found in the individual Sector Exam Program pages within this document. **Please refer to the Sector that best identifies your recertification requirements.**

The Level 2 Industrial Radiography practical recertification examination is a closed book examination. No books or notes other than those provided will be permitted during the exam. A scientific calculator may be used provided it does not contain information or establish programs which provide solutions to examination problems.

A standard will be supplied which will identify the limitations of specific quality factors: eg. sensitivity; unsharpness; density limitations; and penetrameter selection.

Note: The diagonal measurement of the source/effective focal spot is to be used for all unsharpness mathematical calculations. The candidate should be prepared to calculate this diagonal measurement.

The candidate will be required to read the written instructions prior to him/her beginning the exam.

The candidate will be given adequate instruction in the operation and placement of equipment and accessories required to produce the required results safely.

The candidate may or may not be required to develop his/her own film. This decision will be made by the exam invigilator.

There is no internal access for film placement in any of the exam specimens.

The candidate is not allowed to bring or use his/her own equipment and is not allowed to take parts or film away from the exam centre.

There are many different ways to radiograph an exam specimen. Grading of a technique will be according to the guidelines of coverage, density, sensitivity attained and clarity of the technique so that a Level 1 personnel would be able to follow the instructions easily.

Candidates' questions will be answered unless the question is an exam requirement. An invigilator may refuse to answer any question he or she considers to be part of the exam.

Candidates will be given the opportunity to give feedback concerning the practical exam. After completing the exam, the candidate will complete the comment sheet and place it into the return envelope with the exam paper(s). The comment sheet will then be sent to the NDTCB along with the exam in the sealed return envelope.

Note: There is concern about candidates who appear confused and unsure of themselves while attempting their practical exam. It is the prerogative of the invigilator to discuss this situation with the candidate and, if necessary, terminate the practical exam. All such actions, as well as any special assistance given to the candidate, must be reported to the examiner on the invigilators assessment sheet.



Industrial Radiography

Level 2 E.M.C. Sector Recertification Examination

The candidate will be required:

- To complete two (2) practical exam specimens as indicated on the candidate's examination admittance and registration form.
- For each of the two (2) specimens inspected, completely fill in the paperwork provided for each specimen.

The candidate will be provided with:

- two (2) exam specimens;
- the Standard Method For Radiographic Examination of Weldments, Castings and Forgings;
- a current isotope decay curve;
- film characteristic curves;
- logarithmic and anti-logarithmic tables;
- source size and effective x-ray focal spot size;
- sketches of the exam specimens;
- exposure curves; and
- sufficient radiographic film of required speeds to carry out the techniques.

The candidate will be given adequate instruction in the operation and placement of equipment and accessories required to produce the required results safely. Although the exam centre supplies each candidate with exposure curves, it should not be assumed that the exposure curves are accurate for all exam specimens as alloying materials vary greatly from one metal to another. Following an exam shot, the candidate is expected to have the necessary skill to quickly zero-in on the correct exposure.

FILM INTERPRETATION

The candidate will be required to interpret twelve (12) identified defect indications on the radiographs supplied.

The candidate will be provided with:

- white cotton gloves for handling these films;
- a high intensity film viewer;
- twelve (12) radiographs ; and
- sufficient radiograph reporting sheets.

GENERAL SAFETY

The candidate will be observed on the general safety requirements of radiography, namely: the use of a calibrated survey meter; wearing of an optically stimulated luminescent dosimeter (OSL); wearing of a direct reading dosimeter (DRD); as well as maintaining safe exposure perimeter barriers when not working within the confines of a radiographic exposure room. **These specific safety items will be a graded element and noncompliance could result in failure to be recertified as a Level 2 radiographer.**



Industrial Radiography

Level 2 Aerospace Sector Recertification Examination

The candidate will be required:

- To complete two (2) practical the exam specimens as indicated on the candidate's examination admittance and registration form.
- For each of the two (2) specimens inspected, completely fill in the paperwork provided for each specimen.

The candidate will be provided with:

- two (2) exam specimens;
- film characteristic curves;
- logarithmic and anti-logarithmic tables;
- effective x-ray focal spot size;
- sketches of the exam specimens;
- exposure curves; and
- sufficient radiographic film of required speeds to carry out the techniques.

The candidate will be given adequate instruction in the operation and placement of equipment and accessories required to produce the required results safely. Although the exam centre supplies each candidate with exposure curves, it should not be assumed that the exposure curves are accurate for all exam specimens as alloying materials vary greatly from one metal to another. Following an exam shot, the candidate is expected to have the necessary skill to quickly zero-in on the correct exposure.

FILM INTERPRETATION

The candidate will be required to interpret twelve (12) radiographs.

The candidate will be provided with:

- white cotton gloves for handling these films;
- a high intensity film viewer;
- twelve (12) radiographs; and
- sufficient radiograph reporting sheets.

GENERAL SAFETY

The candidate will be observed on the general safety requirements of radiography, namely: the use of a calibrated survey meter; wearing of an optically stimulated luminescent dosimeter (OSL); wearing of a direct reading dosimeter (DRD); as well as maintaining safe exposure perimeter barriers when not working within the confines of a radiographic exposure room. **These specific safety items will be a graded element and noncompliance could result in the failure to be recertified as a Level 2 radiographer.**



Ultrasonics

Level 1 E.M.C. Sector Recertification Examination

The duration of the Level 1 Ultrasonics practical recertification examination is 4 hours (½ day).

The Level 1 Ultrasonics recertification practical examination is closed book. No books or notes other than those provided will be permitted during the examination. A scientific calculator may be used provided it does not contain information or established programs which provide solutions to examination problems.

The candidate will be given adequate instruction in the operation and placement of equipment and accessories required to complete the examination.

The candidate will be required:

- To complete two (2) practical the exam specimens as indicated on the candidate's examination admittance and registration form.
- For each of the specimen sections, inspect the indicated section; completely fill in the paperwork provided for each specimen.
- For the reportable indications give its length, depth and location from one of the ends of the specimen by completing the relevant sketch provided in the paperwork.

The candidate will be shown the accessible surfaces of the exam specimens and reference samples.

No surface preparations are permitted on the exam specimens; they must be used as is.

The candidate is requested not to mark the equipment, exam specimens and reference samples.

The candidate is not allowed to take the paperwork and/or the examination specimens out of the laboratory. All reporting must be completed within the examining room or facility.

Candidates' questions will be answered unless the question is an examination requirement. An invigilator may refuse to answer any question he or she considers to be part of the examination.

Candidates will be given the opportunity to give feedback concerning the practical exam. After completing the exam, the candidate will complete the comment sheet and place it into the return envelope with the exam paper(s). The comment sheet will then be sent to the NDTCB along with the exam in the sealed return envelope.

Note: There is concern about candidates who appear confused and unsure of themselves while attempting their practical exam. It is the prerogative of the invigilator to discuss this situation with the candidate and, if necessary, terminate the practical exam. All such actions, as well as any special assistance given to the candidate, must be reported to the examiner on the invigilator's assessment sheet.



Ultrasonics

Level 2 E.M.C. Sector Recertification Examination

The duration of the Level 2 Ultrasonics practical recertification examination is 8 hours (1 day).

The Level 2 Ultrasonics practical recertification examination is closed book. No books or notes other than those provided will be permitted during the examination. A scientific calculator may be used provided it does not contain information or established programs which provide solutions to examination problems.

The candidate will be given adequate instruction in the operation and placement of equipment and accessories required to complete the examination.

The candidate will be required:

- To complete two (2) practical the exam specimens as indicated on candidate's examination admittance and registration form.
- For each of the two (2) specimens inspected, completely fill in the paperwork provided.
 - Reported indication(s) must be accepted or rejected to the procedure provided with the exam specimen.
 - For the reported indication(s) give its length, depth and location from one of the ends of the specimen by completing the relevant sketch provided in the paperwork.
- Write a detailed instruction for one of the examined specimens that includes:
 - a) Scope of the inspection.
 - b) Personnel qualifications requirements.
 - c) A description of exam specimen.
 - d) A list of equipment, reference standards and accessories used.
 - e) A description of the calibration procedures specific for the exam specimen.
 - f) A description of the inspection procedures specific for the exam specimen.
 - g) The instrument settings at the time of inspection.
 - h) Reporting of the results.

The candidate will be shown the accessible surfaces of the exam specimens and reference samples. No surface preparations are permitted on the exam specimens; they must be used as is. The candidate is requested not to mark the equipment, exam specimens and reference samples.

The candidate is not allowed to take the paperwork and/or the examination specimens out of the laboratory. All reporting must be completed within the examining room or facility.

Candidates' questions will be answered unless the question is an examination requirement. An invigilator may refuse to answer any question he or she considers to be part of the examination.

Candidates will be given the opportunity to give feedback concerning the practical exam. After completing the exam, the candidate will complete the comment sheet and place it into the return envelope with the exam paper(s). The comment sheet will then be sent to the NDTCB along with the exam in the sealed return envelope.

Note: There is concern about candidates who appear confused and unsure of themselves while attempting their practical exam. It is the prerogative of the invigilator to discuss this situation with the candidate and, if necessary, terminate the practical exam. All such actions, as well as any special assistance given to the candidate, must be reported to the examiner on the invigilator's assessment sheet.



Magnetic Particle

Level 2 E.M.C. Sector Recertification Exam

The duration of the Level 2 Magnetic Particle practical recertification examination is 4 hours (½ day).

The Level 2 Magnetic Particle practical recertification examination is closed book. No books or notes other than those provided will be permitted during the exam. A scientific calculator may be used provided it does not contain information or established programs which provide solutions to examination problems.

The candidate will be given adequate instruction in the operation and placement of equipment and accessories required to complete the examination.

The candidate will be required to complete the following:

- Measure black light intensity and particle concentration, report results and ensure they meet the minimum required before proceeding with the examination;
- Inspect the two (2) exam specimens as indicated on the candidate's examination admittance and registration form.
- Demagnetize the exam specimens at the completion of the examination.
- Write a detailed instruction for one of the examined specimens that includes:
 - a) Scope of the inspection—method and field of application.
 - b) Personnel qualifications requirements.
 - c) A description of exam specimen.
 - d) A list of equipment, reference standards and accessories used.
 - e) A description of the calibration procedures specific for the exam specimen.
 - f) A description of the inspection procedures specific for the exam specimen.
 - g) The instrument settings at the time of inspection.
 - h) Reporting of the results.

The candidate is requested not to mark the exam specimens. The candidate is not allowed to take the paperwork and/or the exam specimens out of the laboratory. All reporting must be completed within the examining room or facility.

Candidates' questions will be answered unless the question is an examination requirement. An invigilator may refuse to answer any question he or she considers to be part of the examination.

Candidates will be given the opportunity to give feedback concerning the practical exam. After completing the exam, the candidate will complete the comment sheet and place it into the return envelope with the exam paper(s). The comment sheet will then be sent to the NDTCB along with the exam in the sealed return envelope.

Note: There is concern about candidates who appear confused and unsure of themselves while attempting their practical exam. It is the prerogative of the invigilator to discuss this situation with the candidate and, if necessary, terminate the practical exam. All such actions, as well as any special assistance given to the candidate, must be reported to the examiner on the invigilator's assessment sheet



Liquid Penetrant

Level 2 E.M.C. Sector Recertification Examination

The duration of the Level 2 Liquid Penetrant practical recertification examination is 4 hours (½ day).

The Level 2 Liquid Penetrant practical recertification examination is closed book. No books or notes other than those provided will be permitted during the examination. A scientific calculator may be used provided it does not contain information or established programs which provide solutions to examination problems.

The candidate will be given adequate instruction in the operation and placement of equipment and accessories required to complete the examination.

The candidate will be required to complete the following:

- Measure and report the blacklight intensity as the equipment performance check. Ensure that the measured intensity meets the minimum required before proceeding with the examination.
- Inspect two (2) specimens using fluorescent penetrants and/or colour contrast as indicated on the candidate's examination admittance and registration form and the appropriate selection table.
- Report findings on the supplied reporting sheets.
- Write a detailed instruction for one of the examined specimens that includes:
 - a) Scope of the inspection.
 - b) Personnel qualifications requirements.
 - c) A description of exam specimen.
 - d) A list of equipment, reference standards and accessories used.
 - e) A description of the calibration procedures specific for the exam specimen.
 - f) A description of the inspection procedures specific for the exam specimen.
 - g) The instrument settings at the time of inspection.
 - h) Reporting of the results.

Note: Please remember NDTCB requires a specific instruction to inspect a specific specimen.

The candidate must not clean the specimen after inspection since the invigilator must also inspect each specimen. The candidate is requested not to mark the exam specimens. The candidate is not allowed to take the paperwork and/or the exam specimens out of the laboratory. All reporting must be completed within the examining room or facility.

Candidates' questions will be answered unless the question is an examination requirement. An invigilator may refuse to answer any question he or she considers to be part of the examination.

Candidates will be given the opportunity to give feedback concerning the practical exam. After completing the exam, the candidate will complete the comment sheet and place it into the return envelope with the exam paper(s). The comment sheet will then be sent to the NDTCB along with the exam in the sealed return envelope.

Note: There is concern about candidates who appear confused and unsure of themselves while attempting their practical exam. It is the prerogative of the invigilator to discuss this situation with the candidate and, if necessary, terminate the practical exam. All such actions, as well as any special assistance given to the candidate, must be reported to the examiner on the invigilator's assessment sheet.



Eddy Current

Level 1 E.M.C. Sector Recertification Examination

The duration of the Level 1 Eddy Current practical recertification examination is 4 hours (½ day).

The Level 1 Eddy Current practical recertification examination is closed book. No books or notes other than those provided will be permitted during the examination. A scientific calculator may be used provided it does not contain information or established programs which provide solutions to examination problems.

The candidate will be given adequate instruction in the operation and placement of equipment and accessories required to complete the examination.

The candidate will be required to complete the two (2) exam specimens indicated on the candidate's examination admittance and registration form:

- For the two (2) specimens, inspect the indicated section; completely fill in the paperwork provided with the specimen.
- For the reportable indications, give its length, depth, and location from one of the ends of the specimen by completing the relevant sketch provided in the paperwork.

The candidate will be shown the accessible surfaces of the exam specimens and reference samples.

No surface preparations are permitted on the exam specimens; they must be used as is.

The candidate is requested **not** to mark the equipment, exam specimens and reference samples.

The candidate is not allowed to take the paperwork and/or the examination specimens out of the laboratory. All reporting must be completed within the examining room or facility.

Candidates' questions will be answered unless the question is an examination requirement. An invigilator may refuse to answer any question he or she considers to be part of the examination.

Candidates will be given the opportunity to give feedback concerning the practical exam. After completing the exam, the candidate will complete the comment sheet and place it into the return envelope with the exam paper(s). The comment sheet will then be sent to the NDTCB along with the exam in the sealed return envelope.

Note: There is concern about candidates who appear confused and unsure of themselves while attempting their practical exam. It is the prerogative of the invigilator to discuss this situation with the candidate and, if necessary, terminate the practical exam. All such actions, as well as any special assistance given to the candidate, must be reported to the examiner on the invigilator's assessment sheet.



Eddy Current

Level 2 E.M.C. Sector Recertification Examination

The duration of the Level 2 Eddy Current practical recertification examination is 8 hours (1 day).

The Level 2 Eddy Current practical recertification examination is closed book. No books or notes other than those provided will be permitted during the examination. A scientific calculator may be used provided it does not contain information or established programs which provide solutions to examination problems.

The candidate will be given adequate instruction in the operation and placement of equipment and accessories required to complete the examination.

The candidate will be required:

- To complete two (2) practical the exam specimens as indicated on the candidate's examination admittance and registration form.
- For each of the two (2) specimens inspected, completely fill in the paperwork provided with the specimen.
- For the reported indication(s) give its length, depth and location from one of the ends of the specimen by completing the relevant sketch provided in the paperwork.
- Write a detailed instruction for one of the examined specimens that includes:
 - a) Scope of the inspection.
 - b) Personnel qualifications requirements.
 - c) A description of exam specimen.
 - d) A list of equipment, reference standards and accessories used.
 - e) A description of the calibration procedures specific for the exam specimen.
 - f) A description of the inspection procedures specific for the exam specimen.
 - g) The instrument settings at the time of inspection.
 - h) Reporting of the results.

No surface preparations are permitted on the exam specimens; they must be used as is. The candidate is requested not to mark the equipment, exam specimens and reference samples.

The candidate is not allowed to take the paperwork and/or the examination specimens out of the laboratory. All reporting must be completed within the examining room or facility.

Candidates' questions will be answered unless the question is an examination requirement. An invigilator may refuse to answer any question he or she considers to be part of the examination.

IMPORTANT NOTICE: Inspection of Fastened Assembly

If you inspect the fastener holes, you will find some which are definitely flawed, others which are definitely sound. Identify the flawed fastener holes on the sketch provided.

There will be cases where the signal obtained from a fastener hole is so small that it will be difficult to interpret. Indicate such discrepancies on the sketch and explain the source of the signal. The NDT Certification Body is looking for a "reasonable" explanation and not necessarily the "accurate" explanation.



Candidates will be given the opportunity to give feedback concerning the practical exam. After completing the exam, the candidate will complete the comment sheet and place it into the return envelope with the exam paper(s). The comment sheet will then be sent to the NDTCB along with the exam in the sealed return envelope.

Note: There is concern about candidates who appear confused and unsure of themselves while attempting their practical exam. It is the prerogative of the invigilator to discuss this situation with the candidate and, if necessary, terminate the practical exam. All such actions, as well as any special assistance given to the candidate, must be reported to the examiner on the invigilator's assessment sheet.



Level 3 All Methods

Level 3 All Sectors Recertification Examinations

Level 3 certificate holders seeking recertification shall provide evidence of continued qualification confirmed by fulfilling both requirements a) and b) as follows:

- a) Complete the Level 2 practical recertification examination specimens; the drafting of NDT instructions is not required.

Note: Per CAN/CGSB-48.9712-2014 Para 11.3.1 Level 2 practical exam is required; the NCB has determined that alternative documentation cannot be reliably and consistently assessed within the scope of the national program, and therefore is not acceptable.

- b) Complete a Level 3 recertification written examination or the option of a Structured Credit System.

Level 3 requirements for a written examination:

The Level 3 written recertification examination is a closed book examination. No books or notes other than those provided will be permitted during the exam. A scientific calculator may be used provided it does not contain information or establish programs which provide solutions to examination problems.

The duration of the written examination is 1 1/2 hours. The exam will consist of forty-five (45) multiple choice questions pertaining to codes/specifications, CAN/CGSB 48.9712 standard and method specific applications.

The candidate shall answer forty (40) of the forty-five (45) questions, as follows:

- 5 out of 6 questions on the codes/specifications section.
- 5 out of 6 questions on the CAN/CGSB 48.9712 standard section.
- 30 out of 33 questions on the method specific application section.



Level 3 All Methods

Level 3 Structured Credit System for Recertification

(Information obtained from Annex C of CAN/CGSB-48.9712-2014 / (ISO 9712:2012, IDT)).

In this system, during the five years prior to recertification, the Level 3 candidate gains credit for participation in the various activities as shown in the table below. Limits are placed on the maximum number of points which can be gained in each year, and in any activity over the five years, to ensure an even spread of activities.

To be eligible for recertification via Structured Credit System:

- A minimum of 70 points shall be accrued during the five year validity of the certificate.
- A maximum of 25 points per year will be accepted.

Note: A candidate who applies for and does not meet the requirements of the credit system shall be recertified through successful completion of a written examination. In this situation, a maximum of two attempts at the Level 3 written recertification examination within 12 months of the date of application for recertification via the structured credit system will be allowed.

In addition to the recertification application, the candidate shall submit evidence of satisfying the criteria of Table A (below) as follows:

- The agenda and list of attendees for the meetings in activities 1 to 7;
- A brief description of research and development in activities 8-10;
- The references of technical or scientific publications authored in activities 8-10;
- A summary of training delivered in activity 11;
- For each certificate, evidence of work activity per year in activities 12-14.



Level 3 All Methods

Table A: Structured Credit System Activities and Accorded Points For Level 3 Recertification

(This table and its contents are interpreted from CAN/CGSB-48.9712-2014 / (ISO 9712:2012, IDT) Table C.1.)

Activity	Number of points for activity	Maximum points per year for activity	Maximum points per 5-year period for activity
Activity #1: Membership of an NDT society, attendance at seminars, symposia, conferences and/or courses covering NDT and related sciences and technologies.	1 point	3 points per year	8 points per five years
Activity #2: Attendance at international and national standardization committees.	1 point	3 points per year	8 points per five years
Activity #3: Convenorship of standardization committees.	1 point	3 points per year	8 points per five years
Activity #4: Attendance at sessions of other NDT committees.	1 point	3 points per year	8 points per five years
Activity #5: Convenorship of sessions of other NDT committees.	1 point	3 points per year	8 points per five years
Activity #6: Attendance at sessions of NDT related working groups.	1 point	5 points per year	15 points per five years
Activity #7: Convenorship of NDT related working groups.	1 point	5 points per year	15 points per five years
Activity #8: NDT related technical/scientific contributions or publications.	3 points	6 points per year	20 points per five years
Activity #9: NDT related research work published.	3 points	6 points per year	15 points per five years
Activity #10: NDT research activity.	3 points	6 points per year	15 points per five years
Activity #11: NDT technical instructor (per 2 hours) and/or NDT examiner (per examination).	1 point	10 points per year	30 points per five years
Activity #12: Professional activity within an NDT facility, NDT training centre or NDT examination facility, or for Engineering of NDT (for each full year).	10 points	10 points per year	40 points per five years
Activity #13: Dealing with disputes referring to clients.	1 point	5 points per year	15 points per five years
Activity #14: Development of NDT applications.	1 point	5 points per year	15 points per five years

Other restrictions and/or exceptions for each activity are as follows:

- The combined maximum of points for activities 1-7 is 20 points.
- Points are to be given for both convenorship and attendance.
- If there is more than one author for activities 8-10, the lead author shall define points for the other authors.
- The combined maximum of points for activities 8-10 is 30 points.
- The combined maximum of points for activities 12-14 is 50 points.

Note: It is the responsibility of the candidate to refer to CAN/CGSB-48.9712-2014 / (ISO 9712:2012, IDT) standard to obtain full information regarding Level 3 Structured Credit System for recertification.