Canadian Radiation Protection Association

Professional Recognition/Registration

‘PROCESS’

Prepared by: **CRPA Radiation Safety Professionals Committee**

Reviewed by: **CRPA Board of Directors**

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1 *PROFESSIONAL RECOGNITION, AND REGISTRATION*

Introduction

This manual defines the process that enables the Canadian Radiation Protection Association (CRPA) to assess individual credentials and award a letter of *recognition*, or certificate of *registration*. The certificates are designated for individuals as Radiation Safety Professionals within the association.

The Canadian Radiation Protection Association (CRPA), established in 1979, is comprised of individuals actively engaged in some aspect of radiation safety. These individuals represent many organizations that include, but are not limited to regulatory bodies, research establishments, universities, power utilities, hospitals and medical centers, industry, consultants, uranium mines and refineries.

The objectives of the CRPA indicate that the association will strive to promote educational opportunities in those disciplines that support the science and practice of radiation protection, and to assist in the development of professional standards in the discipline of radiation protection.

At the CRPA meeting of May 8, 2002 a motion was passed to have the Radiation Safety Professional Committee submit a proposal establishing a radiation professional certification for the association. The proposal defined a core level competency profile common to all radiation safety professionals, an outline for recognition, registration at this core level and a provision for certification at a more advanced specialty practice. The core level competency profile was approved at the annual meeting in 2003 and the committee was given the task of defining the process by May 2004. Due to limited resources within the organization, it was decided in 2009 to remove the certification section and focus efforts on the recognition and registration processes.

Registration Format

This process is designed to provide a basic registration for the varied duties of Radiation Safety Professionals. A core group of competencies, expected of all individuals responsible for overseeing the use of ionizing radiation, has been developed. The specific wording of the competencies was carefully considered. If the wording was too specific, the document would require constant changing in order to reflect the changing profession. If the competencies were too general, it would be difficult for training programs to determine the appropriate material to include in the program as well as the depth in which to teach.

This process is designed to register individuals at a core level but still permit training programs to design modules or courses that address the needs of radiation safety professionals.

Competency Based Criteria

- The CRPA will not be involved in the direct training of individuals and assumes the individual has the requisite knowledge obtained from relevant training.
- The CRPA will define and validate the competencies expected and will establish an examination based on these competencies.
- Training programs should use the competency profile in the development of their curriculum.
- The basis of any examination set by the CRPA will be the competency profile.
- Similar competencies are placed together in general categories. When a competency could fit in several sections, a decision was made to put it in only one section to avoid redundancy.

FIGURE 1 – CRPA Core Level Competency Sections

(For a complete list of all the core level competencies refer to the CRPA website www.crpa-acrp.ca***)***

Radiation Safety Professional 'Recognition/Registration~~/Certification~~'

CORE AREAS

10: Program Administration

11. Program Administration
- Administrative Responsibilities
- Committees
- Annual Reports
- Policies and Procedures
- Licences

12. Radiation Safety Act & Regulations
- Federal and provincial
- Relevant Sections

13. Licences
- Components
- Application and Renewals
- Amendments

14. Working Rules
- Signs and Working Rules
- Security
- Room design

15. Record Keeping
- Types of records
- submitting and disposal

20. Employee Qualifications-Performance
- Training Program Development, Delivery, and Evaluation
- Employee Training Requirements
- Radiation Safety Professional Requirements
- Continuing Education-Refresher

30. Inspections, Audits & Investigations
- Hazard Identification - Evaluation
- Observations
- Recommendations and Reports
- Compliance Enforcement

40. Exposure and Dose Control
- Exposure Limits
- Area Surveys
- ALARA Program
- Working Habits
- Decommissioning

50. Instrumentation and Equipment
- Basic Monitoring Devices
- Performance Checks and Calibrations
- Radiation Protection Devices

60. Radioactive Inventory Management
- Purchasing-Inventory Tracking
- Receiving
- Transportation
- Storage
- Waste Disposal

70. Personnel Dosimetry
- Exposure Hazards
- Personal Monitoring
- Bioassay
- External Exposure-Internal Dosimetry
- Ionizing Radiation and Pregnancy

80. Contamination Control
- Contamination Surveys
- Spills and Decontamination
- Emissions Monitoring (Release to Environment)

90. Emergency Procedures
- External and unusual situations

CRPA Recognition and Registration Process

PHASE I - RECOGNITION

Objectives

The recognition phase will permit individuals to obtain peer recognition for education and training obtained. The basis for recognition will be the core level competency profile. This phase is also important for those who wish to have training recognized by the association but who do not wish to pursue further credentials. It also allows a review of training prior to applying for registration examination. This helps identify core level competency areas where addition training may be required.

Requirements

- Individuals wishing to obtain general recognition will be required to submit a record of training that is referenced against the competency profile and curriculum guide. This would be similar to a portfolio of training. It would be the responsibility of the individual to ensure all the components of the competency profile are met. Portions of a sample submission are included in Chapter 7.
- It is recognized that the individual may take many different courses to meet the total requirement of the core level competencies.
- The CRPA 'Radiation Safety Professionals Registration Sub-Committee' will assess training programs and courses using the competency profile and curriculum guideline.
- The CRPA will keep a list of programs that meet all the requirements of the core competencies. Individuals taking courses that are on the list will only need to submit a completion certificate and not a full referenced course outline. The current list is included in Chapter 2.
- Programs or courses used for recognition will be expected to have a formal written examination on the material in their course.
- The Registration Sub-Committee may appoint ad hoc members if expertise in another area is needed.
- The Registration Sub- Committee assesses candidate submissions and determines if all the information is complete. The committee will inform candidates if any other information is required.
- A candidate may also combine education in relevant areas with experience in a radiation safety setting to meet the requirements of the competencies. This may require an interview with members of the committee.

PHASE II - REGISTRATION

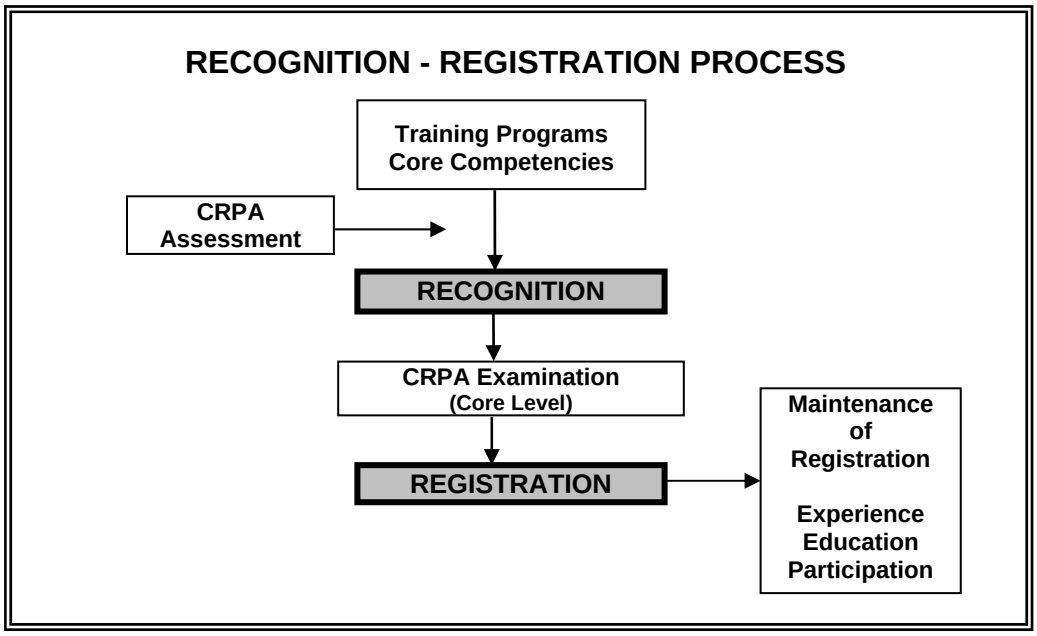
Objectives

The registration phase will permit individuals to meet a standard level of training recognized by the CRPA. Any individual that has met the criteria of Phase I will be eligible to proceed to Phase II if they choose.

Requirements

- The individual will be required to meet the training requirements for the core level competencies as defined in the recognition phase.
- The individual will be required to pass an examination, set by the CRPA and based on the core competencies.

FIGURE 2 – CRPA Recognition – Registration Process



2 *APPLICATION FOR RECOGNITION PHASE*

Required Information:
Submit the application form and a record of training that is referenced against the CRPA core level competency profile and curriculum guide. This would be similar to a portfolio of training and it would be the responsibility of the individual to ensure all the components of the competency profile are met. For a sample of some of the sections please refer to Chapter 8 'Sample Recognition Submission'.

- It is recognized that the individual may take many different courses to meet the total requirement of the core level competencies. Programs or courses used for recognition will be expected to have a formal written examination on all material in their course.
- The CRPA will keep a list of programs that meet all the requirements of the core competencies so individuals taking those courses will only have to submit completion certificates and not a full referenced course outline. (See list of courses below)
- An individual may use their experience in a radiation safety setting to be considered by the review committee. It is the responsibility of the candidate to justify relevant experience for the required competencies.

Entry Requirements:

- Membership in the CRPA

Application Steps:
An application is accepted only when these requirements are met:

- The Core Level Competency Profile is included and referenced.
- The Application Form is complete.
- The applicable non-refundable fee is submitted.
- All required information is complete and verified.
- All information is received by the deadline indicated on the application form.

Notification:

- The candidate will be notified when the information is verified.
- If there are no questions regarding the submission, verification shall be completed within 90 days of receipt of the portfolio. Incomplete information may delay the verification process.
- The candidate will receive notification of the deadline to apply for the next available core level registration examination.

Accepted Training Programs and Courses:

- See Figure 2.1 for a list of programs that have been accepted by the CRPA Registration/Certification Committee. For other courses, not listed you are required to submit the full course outline.

Program Fees

- The non-refundable application fee is $50 CDN and payable to the Canadian Radiation Protection Association.

FIGURE 2.1 - CRPA Accepted Training Programs and Courses

	Course Title	Training Program Provider	Sections from competency profile Approved
1	Principles of Radiation Safety	Technical Management Services, Inc.	30, 60, 80, 90
2	Radiation Measurement and Control	Technical Management Services, Inc.	40, 50, 70
3	Radiation Program Administration and Regulatory Requirements	Technical Management Services, Inc.	10, 20
4	Radiation Safety Officer RSO-1	Radiation Safety Institute of Canada	all sections
5	Responsables de la radioprotection. Sources scellées industrielles.	Radioprotection Inc.	tous sections
6	Responsables de la radioprotection. Sources non scellées et médecine nucléaire.	Radioprotection Inc.	tous sections
7	Unsealed Laboratory RSO	Monserco Limited	all sections
8	Sealed Source/Radiation Device RSO	Monserco Limited	all sections
9	Cours de formation à l'intention des officiers de radioprotection	Contex Environnement inc.	tous sections
10	Advanced Training Course for Radiation Safety Officers	Contex Environnement inc.	all sections
11	NMED 5161 RSO Administration	British Columbia Institute of Technology BCIT	11, 12, 13, 14, 15, 20, 30
12	NMED 5160 RSO Practice	British Columbia Institute of Technology BCIT	40, 50, 60 (except sub-section 63), 70, 80, 90
13	NMED 0516 TDG – Radioactive Materials	British Columbia Institute of Technology BCIT	63

Recognition Application Form

NOTE: Those wishing to write the CRPA registration exam must complete the recognition application and postmark it sixty (60) days prior to the scheduled registration exam.

Name (print): _____

Address Home:_____
STREET NUMBER AND NAME

_____
CITY PROVINCE COUNTRY POSTAL CODE

Address Business: _____

_____
STREET NUMBER AND NAME

_____
CITY PROVINCE COUNTRY POSTAL CODE

Preferred Mailing Address: ___Home ___Business

Home Phone: (_____)_____ Business Phone: (_____)_____

Fax: (_____)_____ Email:_____

A non-refundable application fee of $50 CDN is payable to the Canadian Radiation Protection Association. This fee is for the review process and is separate from any registration exam fees.

Method of Payment:

_____ Cheque (payable to CRPA) _____ Money Order (payable to CRPA)

_____ Master Card _____ Visa

Card Number _____ Expiration Date _____

Name of Card _____

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I certify that all the information associated with this application is complete and correct to the best of my knowledge. I understand that any falsification in this application will be grounds for rejection, or later revocation of any certificate issued. I understand that the Canadian Radiation Protection Association (CRPA) may investigate any submitted information and I agree to provide additional documentation if asked. If I am registered with the CRPA at any level, I understand that I will be required to maintain the registration according to the conditions set by the CRPA. By signing this application I hereby release the CRPA, its administrators, volunteers, employees and all other persons associated with the CRPA, from any and all claims which have resulted or may in the future develop from any actions as a result of my practice of radiation safety. I am aware of the risks of practising radiation safety and hereby assume all risks known and unknown. I declare that these terms are fully understood and voluntarily accepted as part of this application process.

Signature _____

Date:_____

Checklist: ____ Current Membership in CRPA paid

____ Application Form completed and attached

____ Cross Referenced Competency Profile completed and attached

____ Fee enclosed or indicated on application form

Mail Application and all documents to CRPA Secretariat

CRPA Secretariat
PO Box 83
Carleton Place, ON
K7C 3P3

Telephone: (613)-253-3779
Fax: 1-88-551-0712
E-mail: secretariat2007@crpa-acrp.ca
Website: www.crpa-acrp.ca

OFFICE USE ONLY

Date Received: _____ CRPA Membership Confirmed _____

Comments:

3 *APPLICATION FOR CORE LEVEL REGISTRATION*

Required Information:

Submit the application form and confirmation of completion of the recognition phase. The individual will be required to meet the training requirements for the core level competencies as defined in the recognition phase. The individual will be required to pass an examination, set by the CRPA, based on the core competencies.

- It is the responsibility of the individual to meet all deadlines set by the CRPA.

Entry Requirements:

- Membership in CRPA
- Completion of Recognition Phase

Application Steps

An application is accepted only when these requirements are met:

- The deadline for the application is 30 days prior to the scheduled exam.
- The Application Form is complete.
- The applicable fee is submitted. (note: 20% of this fee is non-refundable)
- All required information is complete and verified.

Notification:

- The candidate will be notified when the information is verified.
- The candidate will be notified of the date, time and location of the next available core level registration examination.

Examination process

- The candidate shall provide a photo ID prior to admittance for the exam.
- All other examination material will be provided.
- The Exam: Three hours will be allotted to write the examination.

Program Fees

- The examination fee is $250 CDN payable to the Canadian Radiation Protection Association. (note: 20% of this fee is non-refundable)

Core Level Registration Application Form

NOTE: Those wishing to write the CRPA registration exam should note that the registration application must be complete and postmarked 30 days prior to the scheduled exam.

Name (print): _____

Address Home:_____
STREET NUMBER AND NAME

_____
CITY PROVINCE COUNTRY POSTAL CODE

Address Business: _____

_____
STREET NUMBER AND NAME

_____
CITY PROVINCE COUNTRY POSTAL CODE

Preferred Mailing Address: ___Home ___Business

Home Phone: (_____)_____ Business Phone: (_____)_____

Fax: (_____)_____ Email:_____

CRPA Core Level Recognition Completion Date: _____

An application fee of $250 CDN is payable to the Canadian Radiation Protection Association. Note: 20% of this fee is non-refundable should you withdraw your application to write the registration examination.

Method of Payment:

_____ Cheque (payable to CRPA) _____ Money Order (payable to CRPA)

_____ Master Card _____ Visa

Card Number _____ Expiration Date _____

Name on Card _____

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I certify that all the information associated with this application is complete and correct to the best of my knowledge. I understand that any falsification in this application will be grounds for rejection, or later revocation of any certificate issued. I understand that the Canadian Radiation Protection Association (CRPA) may investigate any submitted information and I agree to provide additional documentation if asked. If I am registered with the CRPA at any level, I understand that I will be required to maintain the registration according to the conditions set by the CRPA. By signing this application I hereby release the CRPA, its administrators, volunteers, employees and all other persons associated with the CRPA, from any and all claims which have resulted or may in the future develop from any actions as a result of my practice of radiation safety. I am aware of the risks of practising radiation safety and hereby assume all risks known and unknown. I declare that these terms are fully understood and voluntarily accepted as part of this application process.

Signature _____

Date:_____

Checklist: ____ Current Membership in CRPA paid

____ Application Form completed and attached

____ Fee enclosed or indicated on application form

Mail Application and all documents to CRPA Secretariat

CRPA Secretariat
PO Box 83
Carleton Place, ON
K7C 3P3

Telephone: (613) 352-3779
Fax: 1-888-551-0712
E-mail: secretariat2007@crpa-acrp.ca
Website: www.crpa-acrp.ca

OFFICE USE ONLY

Date Received: _____ CRPA Membership Confirmed _____

Comments:

4 *REGISTRATION EXAMINATION STUDY GUIDE*

The registration examination is based on two main documents that are posted on the CRPA web-site.
The Core Level Competency Profile
The Core Level Curriculum Guide

The registration examination is based on core level knowledge. The questions will be of a generic nature to cover all work disciplines. Questions that are determined to be at an advanced level will not be questioned on the registration examination but will be moved to the certification examination bank.

The examination will consist of 100 multiple choice questions. Each question will have one correct answer and three distracters. The passing grade for the examination is 75%. Marks will not be deducted for incorrect answers.

EXAMINATION BLUEPRINT		
COMPETENCY SECTION		**% OF EXAM***
11-15	Program Administration, Radiation Safety Act and Regulations, Licenses, Working Rules, Record Keeping	23
20	Employee Qualifications and Performance	9
30	Inspections, Audits, Investigations	17
40	Exposure and Dose Control	8
50	Instrumentation and Equipment	8
60	Radioactive Inventory Management, Purchasing, receiving, Transportation, Storage, Waste Management	18
70	Personnel Dosimetry	9
80	Contamination Control	4
90	Emergency Procedures	4
* The percent of the competency sections on the examination are approximate and dependent on the number of available questions in each section. The ~~Examination Committee~~ Registration Sub-Committee will strive to keep as close to the percentages as possible.		

RECOMMENDED READING LIST

No one set of books can cover all the competencies defined for all radiation safety practices across the country. It is important to remember that the regulatory questions are based on the Canadian Nuclear Safety Act and Regulations as well as all Regulatory Policies, Standards and Guides related to the regulations. Other questions, based on the competency profile and curriculum guide, are referenced to general texts used in many radiation safety programs across the country. The following list, while not all inclusive, should give you a fair representation of where the questions are referenced.

The Examination Committee reserves the right to use material not listed in the recommended reading list but all questions will still be based on the core level competency profile and expectations of an entry level radiation safety professional. Some texts refer to non-Canadian regulations and unit measurements so the candidate should keep in mind that questions will be based on Canadian units and regulations.

1. Nuclear Safety and Control Act
2. General Nuclear Safety and Control Regulations
3. Radiation Protection Regulations
4. Nuclear Substance and Radiation Devices Regulations
5. Packaging and Transport of Nuclear Substances Regulations
6. Class I Nuclear Facilities Regulations
7. Class II Nuclear Facilities and Prescribed Equipment Regulations
8. Uranium Mines and Mills Regulations
9. Nuclear Security Regulations
10. Regulations for the Safe Transport of Radioactive Material, International Atomic Energy Agency, IAEA Safety Standard Series TS-R-1 (ST-1 Revised)

For specific radiation safety textbooks you can consult training providers or academic institutions for their radiation safety related reading lists. Some common texts are listed here in no particular order. Keep in mind that many texts refer to non-Canadian Regulatory standards. Preparation must be done with this in mind.

1. Martin, Alan and Harbison, Samuel, An Introduction to Radiation Protection, 4th edition, Oxford University Press Inc., 1996
2. Bevelacqua, Joseph, Basic Health Physics: Problems & Solutions, John Wiley and Sons Inc. 1999
3. Knoll, Glen F., Radiation Detection and Measurement, 3rd edition, John Wiley and Sons Inc. 2000
4. Cember, Herman, Introduction to Health Physics, 3rd edition, McGraw Hill Companies Inc. 1996
5. AECB, Canada: Living with Radiation, Canada Communication Group Publishing, 1995
6. Roessler, Charles, Management and Administration of Radiation Safety Programs, Health Physics Society 1998
7. Attix, F.H., Introduction to Radiological Physics and Radiation Dosimetry
8. Cooper, J.R., Radioactive Releases to the Environment
9. Schery, S.D., Understanding Radioactive Aerosols and their Measurement
10. Turner, J.E., Atoms, Radiation and Radiation Protection
11. Lamarsh, John, Introduction to Nuclear Engineering, 3rd edition, Prentice Hall, 2001
12. IAEA, Radiation, People and the Environment
13. Shapiro, Jacob, Radiation Protection - A Guide for Scientists, Regulators, and Physicians, 4th edition, 2002.

SAMPLE QUESTIONS

The sample questions are only intended to give you an idea of the level of questioning for the registration examination. It is the intent to include a few more sample questions as the question bank grows and we can remove some from the bank to be included as samples.

1. What agency regulates the use of x-rays in Canada?
   A. Canadian Nuclear Safety Commission (CNSC)
   B. National Council on Radiation Protection (NCRP)
   C. Nuclear Regulatory Commission (NRC)
   D. Provincial Regulatory Agencies

Competency Area 12: Radiation Safety Act and Regulations

2. What is required in order to comply with the ventilation system regulations for Uranium Mines and Mills?
   A. Ensure the fans have warning devices for malfunctions.
   B. Keep a record of the daily flow rate of the ventilation system.
   C. Post a sign by all fans warning of the radiation hazard.
   D. Provide respiratory protection for workers as a primary control in the facility.

Competency Area 12: Radiation Safety Act and Regulations

3. Which group must be declared a Nuclear Energy Worker?

Group		Average Yearly Dose for Group	Highest Individual Yearly Dose for Group
1	Industrial Radiographer	2.46 mSv	23.25 mSv
2	Reactor Fuel Handler	3.99 mSv	8.40 mSv
3	Nuclear Medicine Technologist	1.7 mSv	5.26 mSv
4	Laboratory Technologist	0.12 mSv	0.25 mSv

   A. 1 and 3 only
   B. 2 and 4 only
   C. 1, 2 and 3 only
   D. 4 only

Competency Area 20: Employee Qualifications-Performance (Designating Workers)

4. When conducting an investigation or inspection, at what dose rate do you expect to see a radiation warning sign posted at the entry or boundary of an area?

   A. 1.0 µSv/hr
   B. 5.0 µSv/hr
   C. 10 µSv/hr
   D. 25 µSv/hr

Competency Area 30: Inspections-Audits-Investigations

5. You are investigating after an incident where there has been a spill of radioactive liquid resulting in personnel being contaminated. What practice is consistent with a first investigation response?

   A. Send those who were not involved in the incident home for the day.
   B. Document the incident and interview all the people involved.
   C. Notify the regulator immediately.
   D. Call the provincial radiation safety personnel for assistance.

Competency Area 30: Inspections-Audits-Investigations

6. One tenth value layer (TVL) is defined as:
   A. 1/10 the initial dose
   B. 1/10 the initial shielding
   C. 10 times the HVL
   D. The shielding required to reduce the exposure to 1/10

Competency Area 40: Exposure and Dose Control

7. What device is commonly used to warn workers entering an area of elevated radon progeny concentration?
   A. Direct Reading Dosimeter (DRD)
   B. Thermo-luminescent Dosimeter (TLD)
   C. Personal Alpha Dosimeter (PAD)
   D. Continuous Working Level Monitor (CWLM)

Competency Area 50: Instrumentation and Equipment

8. What is the transport index for a package (cross section $<1m^2$) being shipped as a Yellow III with the following dose rates:

   Surface = 510 µSv/hr
   1 metre from the surface = 43 µSv/hr
   10 metres from the surface = 0.5 µSv/hr

   A. 0.5
   B. 4.3
   C. 5.0
   D. 8.6

Competency Area 60: Radioactive Material Inventory Management

9. When applying for a licence renewal, you anticipate the release for your liquid waste of one of the short-lived isotopes will be 10% higher than the limit on your licence. What should you do?

   A. Determine if the sewage treatment worker dose is less than 1 mSv per year and ask for an increase in the disposal limit for your licence.
   B. Do not change your licence but document any extra releases for subsequent inspections.
   C. Stop all work at the organization until the numbers are verified.
   D. Tell the affected users they must reduce their workload for that isotope by ten percent.

Competency Area 60: Radioactive Material Inventory Management

10. When do the Radiation Protection Regulations require a licensee to use a licensed dosimetry service?

    A. At all times.
    B. When the worker is reasonably likely to exceed 1 mSv/year.
    C. When the worker is reasonably likely to exceed 5 mSv/year.
    D. When the worker is reasonably likely to exceed 20 mSv/year.

Competency Area 70: Personnel Dosimetry

11. You receive a call that there has just been a spill of radioactive liquid and that two people have contaminated. What practice is consistent with a first response to this incident?

    A. Conduct a screening bioassay on the people that were involved in the incident.
    B. Document the incident and interview all the people involved.
    C. Notify management before reporting the incident to the regulator.
    D. Take steps to control or limit the effects of the incident.

Competency Area 80: Contamination Control

12. An industrial radiographer is contracted to perform a test at one of your campus buildings. He reports that the 2 TBq Iridium-192 source is missing from his vehicle. What is the first action you recommend be taken?

    A. Call together the campus emergency response personnel and develop an action plan involving the radiography company.
    B. Arrange for the entire campus to be evacuated until the source is found.
    C. Have your assistant take a radiation survey meter and walk around the campus to try and find the source.
    D. Make arrangements for the media to come on campus and let the public know that a source has gone missing.

Competency Area 90: Emergency Procedures

PREPARING FOR THE EXAMINATION

There is no one study plan that will work for everyone. Every candidate must establish a pattern that works for them. It is not sufficient to assume that relying on work experience without studying will mean success on the examination.

As a minimum, you should review the regulations and any policies, standards and guidelines related to the regulations. You should also be familiar with transport of dangerous goods as they relate to radioactive material. Many people have separate Transport of Dangerous Goods training. The registration exam does not focus on general physics, chemistry or biology questions and calculations. While there may be some basic calculations and physics questions, the exam has a focus on practical radiation safety at an entry level. The more advanced physics questions and calculations are reserved for the certification examination.

Some individuals set up study groups if there were sufficient numbers in their area.

Review time will depend on whether or not you have taken one of the approved training courses as listed in *Chapter 2 – Application for Recognition*.

The two most important documents are the competency profile and curriculum guide. Review each section and understand the material that would be expected of a licensee in each section. This should be done with the

expectations of an entry level Radiation Safety Professional in mind. Material should be covered in a general manner. Detailed regulations on a specialized industry will generally not be included on the examination.

The examination reflects national standards. Provincial or institutional procedures may vary so you must keep this in mind when preparing for the national examination.

MARKING THE EXAMINATION

Exam questions, in which more than 50% of the candidates answered incorrectly, will be reviewed. In addition to this, candidates are encouraged to comment on questions that are not clear and any questions with comments will also be reviewed. A determination will be made to accept the question or remove it from marking. Once the review is complete, the results will be issued. The final exam results will be issued as a pass/fail only. No individual marks will be issued.

Candidates who do not pass the examination will be sent a summary of their percent pass in each of the nine (9) competency categories. This will enable the candidate to determine their weak areas for subsequent exam writings. A straight average of the section percentages does not equal the total exam percent because each section contains a different number of questions.

5 *MAINTENANCE OF REGISTRATION*

Required Information:
Once you have received registration or certification with the Canadian Radiation Protection Association, it is mandatory to meet the established criteria for maintenance of that registration.

Submit documented evidence upon renewal of CRPA membership that a total of 25 points have been obtained from the listed categories. If you are off on extended leave (illness, maternity) you can write the CRPA Radiation Safety Professionals Maintenance Sub-Committee to request consideration to extend the three year time limit.

If you choose not to follow the maintenance program you can opt to rewrite the CRPA(R) examination every three years to maintain your registration.

The category areas are suggested guidelines and members are encouraged to submit any professional or service contributions that relate to radiation safety. This will allow the maintenance of registration to expand to meet the changing radiation safety profession. Also, any radiation safety related work that is not part of the individual's job responsibility would be considered. If TDG training is an expectation at the place of work but a course was taught to an outside institution as an 'extra', then that course would be eligible as 'value-added'. Similarly if you train outside groups or even other staff in your institution, that is not part of your job responsibility, it would count for maintenance.

Determination of the credit point value and acceptance of credit points rests with the Maintenance Sub-Committee and all decisions are final.

It is the responsibility of the CRPA(R) professional to record their points and have verification proof of completion for audit purposes.

The CRPA examination committee will audit the submitted credit summary reviews on a random basis. When the candidate is contacted for an audit they are required to submit the documents that verify their point credits.

To maintain Registration you are required to accumulate 25 points over a three year period. All maximum points per category are based on a three year total. All category credit category points must be related to the field of radiation protection.		
CATEGORY	**POINTS PER EVENT**	**MAXIMUM POINTS PER CATEGORY**
1. CRPA Association		
Committee Member	1 point per year	3
Committee Chairperson	2 points per year	3
Board Member	3 points per year	9
Conference Local Organizing Committee	2 points in year of conference	2
Other		
2. Professional Practice		
Work hours in radiation safety	5 points per year based on full time work (1800 hours) Points adjusted based on % work of full time hours. (eg. 0.5 FTE = 2.5 points)	15
Providing academic instruction or lectures not related to your job requirements.	0.1 points per hour of training	5
Other		
3. Publications		
CRPA Bulletin	1 point per article	None
On-line training module (ie, for CRPA member use)	1 point per module	3
Journal/Bulletin or Newsletter article (non-peer reviewed – referenced)	0.5 points per article	3
Journal article (peer reviewed – referenced)	1 point per article	6
Paper or poster presenter	1 point per paper or poster	6
Paper or poster author	1 point per paper or poster - points adjusted based on number of contributors (eg. 4 contributors each receive 0.25 points)	3
Book or book chapter	2 points per book/chapter	6
Award winning paper, poster, scientific exhibit	2 points per award	4
Other		
4. Professional Development		
CRPA Conference Attendance	1 point per day	None
Other related radiation protection conferences	0.5 points per day	None
Other		
5. Continuing Education Courses		
Registrant (related to CRPA Core Level Areas, Chapter 1 of the Registration Process Document)	0.1 points per hour	None
Instructor Workshop or Lecture (not related to your job requirements)	0.2 points per hour	None
Other		
6. Other		
CRPA(R) Registration exam questions	1 point for every 5 questions	5
Exhibit or paper contest judge	0.5 points per term	2
Special Recognition Award	2 points per award	4
Other Association Membership (APIH, CAMRT, CCPM, CRBOH, HPS, Laser Institute, NRRPT, PCRSP and other related radiation protection associations)	1 point per year per association	3
Non-traditional Credits accepted in the past		

Credit Summary Review (Sample)
Also See Appendix 3

(Keep a copy of proof of credit points for audit purposes)

Credit Summary for – (Name)				
Period Covered – (Calendar Year)				
Date	**Activity/Event/Position/Description**	**Points**	**Cumulative Maximum Points**	**Verification by CRPA**
CRPA ASSOCIATION				
		Total for Category A		
PROFESSIONAL PRACTICE				
		Total for Category B		
PUBLICATIONS				
		Total for Category C		
PROFESSIONAL DEVELOPMENT				
		Total for Category D		
CONTINUING EDUCATION				
		Total for Category E		
OTHER				
		Total for Category F		
		TOTAL CREDITS (Sum of A – F)		

I declare that the information provided is accurate and reflects the true nature of my radiation safety practices throughout the period indicated.

Signed: _____ Date:_____

Position: _____

NOTE: All training or instruction must clearly relate to radiation safety job performance requirements in the core level or advanced level competency profiles. If college courses are declared for training hours the applicant must convert credit hours to actual contact hours.

6 *FREQUENTLY ASKED QUESTIONS*

NOTE: UPDATED AS QUESTIONS NEED ANSWERING

GENERAL

Do I have to get registered?
This process was implemented based on a membership survey and a desire by the membership to put some kind of certification process in place. This process is not mandatory and is not meant to replace any other professional designations. It does, however, provide an opportunity for those with no other professional designation to obtain a professional designation from the CRPA. This process also establishes a standard set of competencies for various duties of radiation safety professionals, which may assist people when applying for certain radiation safety officer positions.

Do I have to be registered in order to work?
It is up to the employer and the regulatory agencies to determine the criteria for employment. Some employers may give preference to those who have pursued registration over someone who has not.

I already have my CHP designation. Will I have to get registered with the CRPA as well?
The short answer is no. Many jobs require a health physicist level of training. The core level is a basic entry level standard.

Will my membership in the CRPA be affected if I do not obtain registration ~~or certification~~?
This process does not affect the membership categories of the association. Once you obtain registration or certification you must meet the criteria to maintain that professional designation.

RECOGNITION

Can I still write in June if I miss the December 31 deadline?
Generally ,no. It takes time for our volunteer committee to review the recognition information. The committee is not paid and performs the task outside other job responsibilities. If you miss the deadline you will have to wait until the next exam sitting. If you have taken an approved CRPA course for recognition or have other circumstances you want considered, the committee can consider a June writing past this deadline but this is not guaranteed.

REGISTRATION

Will I receive a refund if I withdraw my application to write the exam?
You will be refunded 80% of the exam fee. If you do not show up to write to exam it is still your responsibility to notify the association for the 80% refund.

Can I still write the registration exam if I miss the '30 day prior to exam' deadline?
No. The deadline is set to confirm exams to be printed, arrange room size, and prepare the material for shipping to the exam site.

Is there only one exam writing and location each year?
At this time we only can schedule the exam around the conference location and date. This allows the volunteers sufficient time to review all applications and prepare the examinations. There are plans to offer more locations in the future but no decision has been made on offering more than one writing a year.

MAINTENANCE

How do I keep track of my maintenance credits?
It is up to you to keep your verification material. It is best to start a binder to place the material. If you speak at a conference then you should keep a copy of the conference schedule that contains your name and the date you spoke. If you submit a journal or bulletin article you can keep a copy of the table of contents or the article itself. For employment hours you can get a verification letter from your employer. These are just examples but hopefully you get an idea of the type of verification required.

Do I submit my maintenance credits each year or at the end of three years?
You are only required to submit the credit summary not the verification material. You are required to keep the verification material and only submit it if requested for audit purposes.

7 *SAMPLE CORE PROFILE SUBMISSION*

This Sample Recognition does not include a complete competency profile. Sample sections have been included to give the candidate an idea on completing a portfolio using accepted courses or those that are not yet on the CRPA accepted list. The samples are fictitious and any resemblance to actual courses is unintentional.

CRPA Accepted Training Programs and Courses

SAMPLE ONLY

	Course Title	Training Program Provider	Sections from Core Level Competency Profile Approved
1	**Management of Radiation Safety Programs**	**Acme Training Incorporated**	**11, 12, 13, 20, 31, 32, 33**
2	**Practical Aspects of Radiation Detection**	**Scintillating Courses Ltd.**	**50**
3	**Radiation Safety Officer Level 1**	**Ion and Beam Management Corp.**	**All Sections**

Portfolio Submission for Mr. Gamma Beam

11	**Program Administration** Manage a safety program that provides effective control of radiation protection activities in accordance with Federal and Provincial regulations.	
11.1	Manage radiation safety staff and operational budgets	**CRPA Approved Course #1** **Certificate of Completion attached**
11.2	Ensure the role of a Radiation Safety Committee is incorporated in the organizational structure.	
11.3	Advise management and workers regarding issues related to the institute's use of radioisotopes and radiation emitting devices.	
11.4	Prepare corporate policies and procedures to assist management and workers to implement effective radiation safety practices.	
11.5	Develop administrative controls or procedures to ensure departments and individuals comply with radiation safety and regulatory requirements;	
11.6	Initiate revisions to corporate and department policies and procedures based on changes to license conditions or regulations.	
11.7	Conduct an annual review of the radiation safety program.	
11.8	Prepare an annual report of each licensed activity.	
11.9	Authorize the use, work procedures, and locations of use for radioactive material.	
11.10	Represent the Radiation Safety Program on committees and work groups.	
11.11	Maintain good relations with federal and provincial regulators and inspectors.	

50	**Instrumentation and Equipment**

50.1	Ensure equipment is assessed to determine that it is appropriate for its intended use.	
50.2	Administer the use, and maintenance of personnel monitoring devices and instruments.	**CRPA Approved Course #2**
50.3	Ensure radiation survey instruments are calibrated and serviced as required.	
50.4	Perform efficiency tests and document count rates corresponding to contamination levels for each isotope likely to be used with that instrument.	
50.5	Document results of equipment calibration and service.	**Certificate of Completion attached**
50.6	Analyze equipment results for trends that indicate sub-optimal performance.	
50.7	Advise on the use of personnel protective equipment.	
50.8	Assess personal monitoring devices and assess new devices, as they become available.	

90	**Emergency Procedures**	
90.1	Develop procedures for dealing with emergencies involving radioactive material.	See 'A' Preparing for Emergencies
90.2	Advise on the handling of contaminated individuals to the Emergency Department.	See 'A' Preparing for Emergencies
90.3	Advise departments on the handling of deceased patients who have had recent treatment and are a potential radiation source.	See 'A' Preparing for Emergencies
90.4	Act as a resource for those responding to transport or other accidents involving radioactive material.	See 'A' Preparing for Emergencies
90.5	Establish an emergency response team and conduct practice drills.	See 'A' Preparing for Emergencies

A. "Basic Preparation for Radiation Emergencies" (Completion certificate attached)

Provider: EmergPro Inc., 123 Beta Street, Remtown.
Instructor: Millie Beck phone (555) 123-4567 Email:m.beck@scint.net
Dates Taken: March 14, 2003
Course Outline: **Part 1**

8:00-9:00	Fundamentals of Classifying Emergencies
9:00-10:00	Types of Radiation Emergencies
10:00-10:30	BREAK
10:30-11:45	Basic Response to Radiation Emergencies
11:45-12:00	Available Resources
12:00-13:00	BREAK

Part 2

13:00-14:00	Regulations Relating to Reporting Emergencies
14:00-14:30	The Response Team
14:30-14:45	BREAK
14:45-17:00	Emergency Response Practice

Mr. Beam could also submit job descriptions that explain day to day responsibilities relating to each of the competencies or include samples of policies or material created which demonstrates an understanding of the competency. He should interpret the competencies as he sees fit and relate them to any area of prior learning even if specific courses do not appear to cover the material.

APPENDIX 1 – CORE LEVEL COMPETENCY PROFILE

http://www.crps-acrp.ca/english/core_competencies_e.asp

http://www.crps-acrp.ca/francais/core_competencies_f.asp

APPENDIX 2 – CORE LEVEL CURRICULUM GUIDE

http://www.crps-acrp.ca/english/curriculum_e.asp

http://www.crps-acrp.ca/francais/core_curriculum_f.asp

APPENDIX 3 – SAMPLE ONE YEAR CREDIT SUMMARY

Canadian Radiation Protection Association - Association Canadienne de Radioprotection

Credit Summary Review

(For Audit purposes keep a copy of the evidence for proof of credit points)

Credit Summary for: (Enter Name)	
Period Covered – (Enter Calendar Year(s))	**2009**

To maintain Registration ~~or Certification~~ you are required to accumulate 25 points over a three year period.
All maximum points per category are based on a three year total.
All category credit category points must be related to the field of radiation protection.
If unsure of an activity, enter it in the category that best fits and the audit process with determine the validity of the credit
Add extra rows as needed by clicking the row number and using the 'insert row' feature.

Category	Points Per Events	Maximum Points per Category	Date	Description of Activity	Points Achieved
1. CRPA Association					
Committee Member	2 point per year	6	2009	CRPA Registration/Certification Committee	2
Committee Chairperson	3 points per year	9			
Board Member	4 points per year	12	2009	CRPA Board of Directors (Past President)	4
Conference Local Organizing Committee	2 points in year of conference	2			
2. Professional Practice					
Radiation Safety Officer or conducting radiation safety duties at your facility. Adjust Points based on % work of full time hours. (eg. 0.5 FTE = 2.5 points)	5 points per year	15	2009	Signing Authority Licences 12278-1,2,5,8,11,14,17	5
Providing academic instruction or lectures not related to your job requirements.	0.1 points per hour of training	5	2009-05-07	CAMRT National Conference Lecture 'Radiation Exposure from Nuclear medicine Patients'	0.1

3. Publications					
CRPA Bulletin	1 point per article	None			
On-line training module	1 point per module	3			
Journal/Bulletin or Newsletter article (non-peer reviewed – referenced)	0.5 points per article	3			
Journal article (peer reviewed – referenced)	1 point per article	6			
Paper or poster presenter	1 point per paper or poster	6			
Paper or poster author	1 point per paper or poster - points adjusted based on number of contributors (eg. 4 contributors each receive 0.25 points)	3			
Book or book chapter	2 points per book/chapter	6			
Award winning paper, poster, scientific exhibit	2 points per award	4			

4. Professional Development					
CRPA Conference Attendance	1 point per day	None	2009-05-25/28	CRPA Conference Montreal	4
Other related radiation protection conferences	0.5 points per day	None	2009-06-5/7	CAMRT Conference Vancouver	1.5

5. Continuing Education Courses					
Registrant (related to CRPA Core Level Areas, Chapter 1 of the Registration Process Document)	0.1 points per hour	None			
Instructor Workshop or Lecture (not related to your job requirements)	0.2 points per hour	None			
			2009-02-4/5	14 hours Medical Emergency Treatment for Exposures to Radiation, CRTI (International Safety Research)	1.4

6. Other		
CRPA(R) Registration exam questions	1 point for every 5 questions	5
Exhibit or paper contest judge	0.5 points per term	2
Special Recognition Award	2 points per award	4
Other Association Membership (APIH, CAMRT, CCPM, CRBOH, HPS, Laser Institute, NRRPT, PCRSP and other related radiation protection associations)	1 point per year per association	3

TOTAL POINTS	**18**