

The Objectives and Activities of the Canadian Radiation Protection Association

by

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Abstract

The Canadian Nuclear Society and the Canadian Radiation Protection Association are working to develop an agreement between the organizations to facilitate working together on issues of common interest. This paper will present the objectives, the organizational structure and major areas of activity of the Canadian Radiation Protection Association. It is a reciprocal presentation of one given earlier this year by Mr. Fred Boyd of the CNS to the CRPA annual conference. The intent is to help the membership of each organization better understand the objectives and interests of the other.

Introduction

The Canadian Radiation Protection Association (CRPA) was formed in 1979 at a founding meeting in Toronto as a formal means of bringing together radiation protection professionals from across the country. It held its first annual conference in 1980 and was incorporated in 1982. The CRPA membership is drawn from universities, hospitals, research facilities, government agencies, nuclear utilities, the uranium mining industry and private consulting companies.

The organization is concerned with exposure of workers and the public to the hazards of both ionizing and non ionizing radiation. In fact, our biggest concern today, as an organization, is probably with public exposure to ultraviolet (UV) radiation from the sun. We believe this to be a significant public health hazard. Specifically, the objectives of the organization are:

1. To develop scientific knowledge and practical means for protecting humans and their environment from the harmful effects of radiation consistent with the optimum use of radiation for the benefit of humans:
2. To further the exchange of scientific and technical information relating to the science and practice of radiation protection
3. To encourage research and scientific publications dedicated to the science and practice of radiation protection
4. To promote educational opportunities in those disciplines which support the science and practice of radiation protection
5. To assist in the development of professional standards in the discipline of radiation protection

6. To support the activities of other societies, associations or organizations, both national and international, having any activities or objectives relevant to the foregoing

It is important to note that the CRPA does **not** exist to, in any way, promote the nuclear power industry. Rather, we strive to help put the risk of radiation exposure into better perspective given that man made sources of radioactivity including nuclear power do exist. Thus, while we are interested in pursuing common interests with organizations such as the CNS, we want to keep this important distinction in mind.

Membership and Structure

While the membership is diverse as discussed above, it is also small. Currently, there are roughly 320 full members, 23 corporate members and 6 student members. Our full memberships have been declining in recent years and we are concerned about it. Poor age demographics and a declining nuclear industry are thought to be contributing factors. At our most recent annual conference in Ottawa last May, we held a special workshop to try to analyse the problem and develop constructive solutions to increase membership.

Our constitution consists of a set of bylaws and we maintain a small Rules Committee to provide interpretation as required. Our Executive consists of a Board of Directors with the following composition:

A President (elected annually)

A President Elect (who serves on the Board for the year prior to his/her term of office)

A Past President (stays on the Board for one year after his/her term)

A Secretary (2 year term)

A Treasurer (2 year term)

Four Directors (2 year staggered terms)

The current makeup of the Board includes two people from the AECEB, two from universities, two from government laboratories, one private consultant, one from another provincial ministry and one from Ontario Hydro.

The organization also operates through a set of Standing Committees in each of the following areas:

- Membership
- Rules
- Translation and Terminology
- Archives
- Nominations
- Awards
- Public Information
- Position Statements

- Radiation Safety Officers

In the past year, we have put significant effort into formalizing the terms of reference for each of the standing committees.

Activities of the CRPA

As a small organization with limited funds, there is a corresponding limit on the number of activities we can sponsor. Our major regular event is our annual Conference which is typically held in May or June at various locations across the country. The 1998 Conference was held in Ottawa and was based around a theme of Training and Education in radiation protection which featured some excellent invited speakers and a special symposium on UV exposure. The 1999 Conference will be held in Saskatoon next May.

The CRPA has two primary communications vehicles with its members. These are the quarterly CRPA Bulletin and the website. The Bulletin has been a feature of our Association for many years. It is not a scientific journal but rather a forum for letters to the editor on topical subjects, reviews of topical meetings and conferences in radiation protection, advertising from our Corporate members and others and some regular features including *News from the Provinces*, and a message from the President. For many years, the Bulletin was managed on a volunteer basis which often resulted in an inconsistent standard and in recent years, we have contracted out the publication which has generally produced a better quality product.

A major development over the past two years has been the establishment of an Internet website, largely through the efforts of one particularly dedicated member, Mr. Craig Smith at UBC. It is clear that this will become an increasingly useful tool for communicating to members (eg we are now attaching minutes of meeting from the Board of Directors) and non members who may be interested in our activities or in fact in joining the organization. We are working very hard at present to ensure that our website information is available in both official languages. The CRPA home page can be reached at <http://www.safety.ubc.ca/rad/radhome.htm>.

The Positions Statements Committee

The CRPA seeks to establish itself as an important voice in Canadian society on questions related to the risk of exposure to radiation. Many of our members do that as a normal part of their professions but on occasion we also believe it important for the Association to speak with one voice. Examples of issues for which we have established a formal CRPA Position include:

- The high level radioactive waste hearings
- UV exposure
- The risk of exposure to low levels of ionizing radiation (in draft)

The CRPA has now formalized the process for developing such position papers through its Positions Statements Committee which is chaired by the immediate Past president and includes all previous past Presidents. Their job is to develop a draft position on a topic of interest, solicit comments from the membership, revise as necessary before seeking final approval from the Board of Directors of the document becoming an official position of the organization.

High Level Waste Hearings

These hearings, conducted by the High level Waste Review Panel of the Canadian Environmental Assessment Agency in 1995/96 provided an opportunity for the CRPA to express its collective views on this highly controversial topic. In particular, our submission focussed on the stated assumptions concerning the potential future health effects from the calculated doses associated with the disposal of high level waste. In fact, our original draft generated substantial debate within our organization. A final position however was eventually sanctioned by the organization and formally presented to the hearings in Hull, Quebec.

UV Exposure

Explaining to the public the risks of exposure to ultraviolet (UV) radiation has perhaps been the most active area of the CRPA in its history. Simply put, we believe that UV exposure is the biggest single public radiation risk in this country and perhaps worldwide. The primary source of exposure is from the sun and research has shown that people receive more than 80% of their exposure before the age of 18. Hence, there is a need to educate both children and their parents. The Canadian Dermatology Association estimates that one person in seven will develop skin cancer in their lifetime and the sun is responsible for more than 90% of those cancers. In 1996, there were 3,100 new cases of melanoma and 62,500 other skin cancers reported in Canada. By the year 2010, we expect 100,000 new cases of skin cancer every year unless steps are taken now to reduce exposure. While most skin cancers can be successfully treated, there is still enormous trauma to patients and substantial health costs which can be avoided. In Australia, for example, skin cancer now accounts for two-thirds of all cancers, kills 1,000 people per year and costs \$ 100 M a year to treat. In response, schools are now introducing enforced wearing of hats in school grounds, modification of the hours that children spend outdoors and increased availability of shade from manmade structures and planting of trees in open areas.

The CRPA is involved along with several other organizations in leading the fight against unnecessary UV exposure in Canada. In the past year, we have developed a position paper on this subject, developed educational material in various forms, held a special symposium at our annual conference and written to all Provincial and Territorial Ministries of Health requesting that action be taken to reduce UV exposure to Canadians. To date, replies have been received from seventeen of twenty-four letters. Our Public Information Committee will be deciding on next steps for the Association.

It is important to note that we are not advising people to stay indoors all the time. This is neither practical nor healthy. The following *common sense* advice is proposed by Health Canada:

1. **Minimize sun exposure**, eg plan outdoor activities before 11 a.m. or after 4 p.m.
2. **Seek shade**, especially between 11 a.m. and 4 p.m.
3. **Cover up**, clothing on arms and legs, wide brim hat, sunglasses
4. **Use sunscreen**, SPF 15 or higher with both UVA and UVB protection

Radiation Risk

The current philosophy of radiation protection is based on the assumption that radiation dose, no matter how small, may result in human health effects, such as cancer and genetic damage. This is known as the Linear No Threshold (LNT) hypothesis. The linear extrapolation of health effects observed at high doses and dose rates (such as those observed in the Japanese bomb survivors) has been increasingly controversial in recent years, especially given the emergence of several studies suggesting that low doses of radiation (consistent with those in the occupational exposure range) may be beneficial. This is referred to as radiation hormesis. In addition, deleterious health effects have not generally been observed in epidemiological studies below doses of about 100 mSv (10 rem). Given this controversy and the impact of the LNT hypothesis on radiation protection standards and practices, the CRPA is developing a position statement for the risk of exposure at low doses. We have defined low doses as those below 50 mSv (5 rem) per year or 100 mSv (10 rem) lifetime to an individual.

Collaboration with the CNS

Over the past several months, there has been a flow of communication between the CNS and the CRPA seeking a framework for collaboration between our organizations. The proposed agreement, as yet unsigned by either organization, contains several *Articles* describing the basic objectives of such an association and some details on how it would work. Article I bears repeating here:

Article I

Both Societies wish to promote the peaceful and safe use of nuclear science and technology, further the knowledge, exchange of ideas, promote educational opportunities, and assist in the development of standards relating to radiation protection. With these objectives in mind, both Societies wish to encourage co-operation and friendly exchange between their members.

Article III contains several points with respect to *how* the proposed association between the two organizations would work including:

- Designation of official contacts in each Society

- Exchange of information such as Calls for Papers for conferences and regular publications
- A commitment to provide free registration for up to two attendees from each Society to attend the other's annual conference
- A commitment to investigate fields of mutual interest and
- A commitment to encourage co-operation and exchange between respective members consistent with the objectives in Article I

At present, the proposed Agreement has been mailed out to all of our members within the CRPA with the intent of securing ratification from the membership. It currently has the support of our Board of Directors. In my view, this is an important and necessary first step in establishing a meaningful relationship between the CNS and the CRPA. Clearly, the formal relationship is in its infancy. To make it work, our mutual challenge will be to find useful areas of interchange and to commit the time to fully exploit our collective skills.

Both organizations are struggling to survive and prosper in an increasingly tough business environment for its members, new challenges related to funding and ageing membership. These problems are all interrelated. Perhaps, collaboration between our organizations is one way of fighting the battle to help secure the long term health of the CNS and the CRPA. I hope that my message today is one small step in making that happen.