

2015 September 15

## CNS COUNCIL INFORMATION & GUIDELINES

This document is intended to provide a summary of how the Council of the Canadian Nuclear Society is organized and operates. The document provides:

1. Background information about the Society in general
2. Background information on the makeup and operation of Council
3. What is expected of Council members
4. Roles and responsibilities of CNS Committees and Divisions

### APPENDICES

- I List of Nuclear Societies with Cooperation Agreements with CNS
- II The list of INSC members is provided in Appendix II
- III The CNS Bulletin
- IV The Positions of **Executive Director** Financial Administrator, and Communications Director

## **1. Background information about the Society**

### **1.1 About the CNS**

The Canadian Nuclear Society (CNS) promotes the exchange of information on all aspects of nuclear science and technology. This includes nuclear science and technology, nuclear-power generation, nuclear-plant equipment, uranium mining and refining, nuclear-fuel design and manufacturing, medical and industrial uses of radionuclides, management of radioactive wastes, and associated activities in research and development.

The CNS was established in 1979 as the technical society of the Canadian Nuclear Association. Over the years it has grown in size and financial strength. Recognizing the benefits of being a separate legal entity from the CNA, the CNS applied for incorporation, and in 1998 June became a separate incorporated not-for-profit corporation. In 2014 the CNS applied and was successful in receiving approval for continuance as a corporation under the new Not-for-Profit-Corporations Act. The current By-Laws of the CNS can be found on the society's website (see url below).

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CNS membership is open to individuals only (not organizations) - individuals directly involved with nuclear technology in any of the above areas, or those simply interested in nuclear topics. CNS membership is per calendar year (January 1 to December 31).

CNS membership currently stands at about 1100. Categories of CNS membership are: Regular, Retiree, Student. All members have the same rights and privileges, but pay different membership dues.

### **1.2 CNS Office**

The CNS maintains its office in the Greater Toronto area. For the last few years AMEC Foster Wheeler has kindly hosted the CNS office within its physical space, for which the CNS is very grateful.

Contact information for the CNS Office:

- Office address: 4<sup>th</sup> Floor, 700 University Avenue, Toronto, ON, M5G 1X6.
- Telephone number: is 416-977-7620.
- E-mail address: [cns-snc@aon.aibn.com](mailto:cns-snc@aon.aibn.com)
- CNS website at <http://www.cns-snc.ca>.

The CNS Office Administrator is Bob O'Sullivan. Bob can be reached by e-mail, telephone, or snail mail.

### **1.3 Objectives of the CNS**

The objectives of the CNS are:

1. Act as a forum for the exchange of information relating to nuclear science and technology;
2. Foster the development and beneficial utilization of nuclear science and technology for peaceful uses;
3. Encourage education in, and knowledge about, nuclear science and technology;
4. Enhance the professional and technical capabilities of those involved in nuclear science and technology in the Canadian context.
5. To provide a resource of information and communicate to the public, academics, industry and governments concerning issues relating to nuclear science and technology and energy-related matters.

The CNS would also like to be seen as a responsible voice in the public forum on issues related to nuclear science and technology, and energy-related issues in general.

### **1.4 The Structure of the CNS**

The CNS conducts its affairs through a Council, which is its Board of Directors. Council members are elected by the membership at the Annual General Meeting. The Council is responsible to the membership in the development of policies and programs. The CNS is organized into: 1) Branches and Technical Divisions, both directed towards involvement of the individual member, and 2) Committees. Branches are established on a geographical basis and hold local meetings and topical seminars on issues of interest. Technical Divisions are established on a discipline basis and handle specific technical areas of interest; they organize conferences and arrange for Canadian participation in the world-wide nuclear-related technical information forum. The Committees are formed to oversee the high-level activities performed by the CNS at the national level and to implement, along with the Branches and Technical Divisions, the Objectives of the Society.

### **1.5 Benefits of Membership**

Some of the benefits accruing to CNS Members are as follows:

- Belong to a Professional Society with its mandate in the area of your professional career
- Receive quarterly CNS Bulletin
- Receive annual Nuclear Canada Yearbook
- Receive earliest notification of CNS Courses and Conferences, Branch Seminars and other Programs
- Receive early notices by e-mail of many other items of interest
- Receive special member registration fees to CNS Conferences and Courses
- At Conferences organized by another Society (e.g., ANS) and co-sponsored by the CNS, take advantage of same fee as member of the organizing Society

- Complimentary membership to full-time students in Canadian institutions; if CNS members in year of graduation, 50% discount on membership fees for next 2 years.
- Take advantage of many excellent opportunities to grow professionally by meeting and networking with colleagues in Canada and internationally
- Take advantage of excellent opportunities to grow personally by volunteering, learning new things and new skills
- Free posting of resume on CNS website
- Low membership fees compared to many other similar societies

Details on some of the above are given here:

#### Bulletin of the Canadian Nuclear Society

The Bulletin is published quarterly and includes technical articles, reports, commentary on energy and general science-policy issues, review articles and book reviews.

#### Nuclear Canada Yearbook

Published annually in June, the Nuclear Canada Yearbook is the Canadian nuclear industry's only product and services guide. It also includes year-end reports from the CNS and all Canadian nuclear societies and associations.

#### Conferences and Courses

The CNS organizes international conferences, symposia, seminars, workshops and courses on a wide variety of nuclear-related topics.

#### General Information

The CNS provides to its members information on topical matters and developments in nuclear technology.

#### E-mails to CNS members

Regular e-mailings to members: news about Conferences, Courses, Branch Seminars, general news about nuclear technology and events world-wide.

#### Branch Activities

These activities encourage involvement in a forum for technology exchange, as well as in social events.

#### CNS Website

The Canadian Nuclear Society website (<http://www.cns-snc.ca>) contains general information about the Society, Society news updates, a page for purchasing or renewing CNS membership, a listing of upcoming CNS Branch events, conferences and courses, individual event pages with links for registration, hotel guestroom booking, and conference paper submission. It has a page for CNS-member-only access, and a page for Council-member-only access, where important CNS files, such as CNS By-Laws, CNS policies, Council-meeting minutes, the travel expense-claim form, etc., are posted.

## 2. Background Information on Council Makeup

### 2.1 Council Members

The **voting** members' Council consists of a number of elected members:

- Elected members:
  - Executive
    - President
    - 1st Vice President (President Elect)
    - 2nd Vice President
    - Secretary
    - Treasurer
    - Immediate Past President
  - Members at large (currently can number from 9 to 24)

The elected Council members have a mandate of one year, from one CNS Annual General Meeting to the next. The President and Immediate Past President roll over automatically from the positions of 1<sup>st</sup> Vice President and President which they occupied in the immediate past year.

There are also **non-voting** members of Council. They are members who are Branch, Division, and Committee Chairs but who are not themselves elected members of Council. Together with the elected members of Council, they make up the **Extended Council**.

In addition, a number of positions are assigned to members with special duties, reporting to the executive and the Council. They are: Executive Director, Financial Administrator, and Communications Director. The description of these positions is given in Appendix IV.

### 2.2 Council Meetings

- Each year, the new Council is voted in at the Annual General Meeting (AGM). This normally takes place in June, usually in conjunction with the Annual Conference.
- The Council normally meets about 6-7 times a year.
- The dates for upcoming Council meetings and an action list for the coming year are normally presented at the first meeting of the new Council.
- An Officers' Seminar has been held in some years to provide an orientation to new Council members and to receive feedback from representatives of Branch Executives.

### 2.3 Sample Council-Meeting Agenda

- Opening remarks / President's report (President)
- Review minutes of previous Council meeting (Recording Secretary)
- Review of actions from past Council meetings “
- Review of Council Action list

- Division Reports (Division chairs)\*
  - Committee Reports (Committee Chairs)\*\*
  - Executive Director Report
  - Financial Administrator Report
  - Communications Director Report
  - Treasurer's Report (Treasurer)
  - Any other business
- \* May be presented by Program Committee Chair if Division chair(s) not present  
 \*\* See section 3.1 for list of Committees.

## **2.4 What is expected of Council members**

- Devote the necessary amount of time in discharging the duties of the position
- Attend as many Council meetings as possible, either in person or by teleconference
- Ensure their own membership is in good standing
- Provide necessary reports to Council or Committee Chair (refer to 2.2)
- E-mail reports for Council meetings about one week in advance of meeting
- Division, Branch and Committee chairs are to keep a binder which outlines the details of their job function. At the turnover from one Council to the next, the binders are to be passed on to the incoming chair along with copies of useful electronic files
- President, Past President, Secretary and Treasurer should also maintain a list of their specific detailed activities and copies of electronic files. These are to be passed on to the incoming person upon turnover of Council.
- Division, Branch & Committee chairs to provide budget requests to Treasurer at budget time in the Fall.
- Division, Branch & Committee chairs to provide a summary report of yearly activities in advance of the AGM.

### **3. Background Information on Committees and Divisions**

#### **3.1 Committee List**

- Finance
- Program
- Branch Affairs
- Membership
- Internet
- Education & Communication
- Bulletin
- Honours and Awards
- International Liaison
- Intersociety Relations
- Past Presidents
- Annual Conference
- Women in Nuclear
- Yearbook
- Young Generation
- Scholarship

#### **3.2 Division List**

- Nuclear Science & Engineering
- Fuel Technologies
- Design & Materials
- Nuclear Operations and Maintenance
- Environment and Waste Management
- Fusion Energy Science and Technology
- Medical Applications and Radiation Protection

### **3.3 Finance Committee**

#### **Treasurer**

Act as one of the CNS signing authorities for cheques.

Provide guidance to the CNS Accountant and review monthly financial statements prepared by the accountant. Monthly reports shall include the Income and Expense Statement, Balance Sheet, and Education Fund Statement.

Submit monthly reports to Council and highlight any significant developments. Prepare and submit other financial summaries, as appropriate.

Prepare annual CNS budget, utilizing input from Committee Chairs, and submit budget to Council for approval. Monitor expenditures against budget and advise Council of any unexpected developments

Review financial statements prepared by Conference Treasurers.

Prepare appropriate financial procedures and guidelines for approval by Council.

Monitor the investment of CNS financial assets, and propose any adjustments to Council.

Ensure annual auditing of the CNS accounts by an external Auditor.

Implement any finance-related directives from the Executive Committee or Council.



### **3.4 Program Committee**

#### Objectives

Coordinate and support the activities of the Divisions to initiate and organize conferences, seminars and courses that will assist the technical development of CNS members and further the aims of Canadian nuclear science and technology.

#### Additional Benefits

Provide funds from surplus to offset the operating costs of the CNS. Note: this is a major source of CNS revenue.

#### Target

Each Division to hold on average a major conference every two years, and a minor event (workshop, course, symposium) every year.

#### Program Committee Members (7)

Chair

President

Division Chairs (5)

#### Principal Activities

- Maintain the rolling program of events
- Review budget requests for Class-A & Class-B conferences (see below) and provide recommendations to Council
- Review requests for Class-C co-sponsorship and provide recommendations to Council
- Provide input on proposed conference dates based on review of Rolling Program
- Produce the annual Calendar of Events.

#### CNS Sponsorship - 3 event categories

- Class-A (CNS takes all financial risk)
- Class-B (CNS shares risk with another organization)
- Class-C (CNS offers to publicize the conference in its publications and provide assistance, but takes no financial responsibility).

#### Protocol

Request is submitted to the Program Committee for review, after which it is submitted to Council. Request should contain:

- Objectives for the event
- Proposed date / location / duration
- List of probable technical sessions.

#### Conference Budget

Class-A & Class-B events should also include:

- Expected attendance (from what source)
- Proposed budget showing:
  - Fixed costs
  - Per-person costs
  - Recommended registration fees
  - Source of support
  - Break-even attendance
  - Likely surplus.

Conference Manual

CNS has a conference-planning manual to assist Committees in organizing a conference.

### **3.5 Branch Affairs Committee**

#### Mandate

Promote the objectives of the Society through the Branches.

Provide guidance to Branches with respect to Branch operations and CNS policies.

Solicit annual budget proposals from Branches and provide operating funds to Branches, subject to overall CNS budget limitations.

Solicit annual Educational Fund proposals from Branches and provide Educational Funds to Branches subject to overall fund limitations.

Supply information to Council regarding Branch activities, problems, successes, etc. (based on input from each Branch).

Promote and assist in information exchange between the Branches.

#### Role of Branches

Implementing the objectives of the Society by holding periodic meetings within their area, and by other appropriate means.

Co-operate with other scientific or technical societies or associations in their area to promote the objectives of the Society.

Branch Chairs (or delegate) to provide a report to the Branch Committee Chairman prior to each Annual General Meeting (AGM).

#### Role of Branch Committee Chair

The traditional function of the Branch Committee Chair has been to:

- Collect activity reports for the Council meetings and Annual General Meetings (AGMs)
- Assist Branches where necessary
- Solicit budgets for the coming calendar year, and summarize the budgets
- for Council review
- Approve requests for funding and pass them to the Financial Administrator and Treasurer for action
- Solicit year-end financial reports, obtain year-end bank statements for the auditor, and summarize year-end data for the Auditor and for Council.

## Branch List

- Bruce
- Chalk River
- Durham
- Golden Horseshoe
- Manitoba
- New Brunswick
- Ottawa
- Québec
- Sheridan Park
- Toronto
- University of Ontario Institute of Technology (UOIT)
- Western (merger of Saskatchewan and Alberta Branches, as well as British Columbia, the Yukon and the Northwest Territories)

### **3.6 MEMBERSHIP COMMITTEE**

#### **MANDATE:**

To identify CNS members' needs and develop strategies for satisfying members' requirements.  
To increase the number of CNS members.

#### **DUTIES:**

Maintain an accurate membership database of membership data and payment status as well as mailing address and electronic address of members.

Maintain the electronic links for applying for or renewing CNS membership.

Send out membership renewal reminders, preferably in early October.

Endeavour to sign up new members.

Pursue unpaid members and encourage them to renew.

Update membership statistics and provide a report on the activities of the Membership Committee at Council meetings.

Bring the concerns of members related to the functioning of the CNS to Council meetings.

Select, purchase and distribute gifts to help maintain and increase membership.

Analyze surveys to determine whether the members (customers) are satisfied. Identify members' wishes

Encourage the Branches and Committees to promote membership at all Branch meetings and CNS events. Provide posters, brochures, application forms, gifts, etc.

Write articles on membership for the Bulletin and encourage members to write letters to the Editor.

Provide budget estimates to the Treasurer in early November. Set annual membership fee (in consultation with the Council).

Monitor costs and take early action to stay within budget, or request additional budget, in advance of disbursements, if it appears that more budget will be required.

#### **STRUCTURE AND OPERATION**

Chair

CNS Office Manager

Additional Council members interested

### **3.7 Internet Committee**

#### Mandate

- To create an effective presence for the CNS on the Internet to serve the interests and needs of members and non-members.
- To maintain and keep accurate the information the CNS provides via the Internet.
- To maintain part of the CNS website for access by CNS Council only, and for posting of important files for Council use, such as minutes of Council meetings, CNS policies, the travel-expense-claim form, etc..
- To maintain part of the CNS website for access by CNS members only. Here CNS members can have access to the CNS membership directory in electronic form.
- To maintain all the hardware, software, and network connectivity required to keep the CNS Internet presence operational.
- To maintain accessibility to the CNS website in a user friendly way.

Committee Members:

Chairman

Webmaster

Other Council members

### **3.8 Education & Communication Committee**

#### **MANDATE AND TERMS OF REFERENCE**

- To facilitate the exchange of information pertaining to nuclear-related issues amongst CNS members and the general public and to develop and administer educational program in this regard
- To encourage CNS members to become involved in speaking out and writing on nuclear issues and to participate in public educational programs
- To develop education programs (at the junior high school and high school level)
- To improve the means by which the CNS communicates with public
- To administer the CNS Education Fund
- To oversee the organization of Nuclear-101, Nuclear-for-Everyone, and similar courses
- To coordinate programs with Learned Societies to advance science and technology in Canadian Schools.

#### **DUTIES OF THE CHAIR**

- Nominate and lead the Education and Communication Committee
- Prepare ECC annual budget and program outline
- Administer and help set guidelines for Education Fund
- Improve communication between CNS and the public
- Improve CNS media contacts and affiliations
- Interact closely with the Communications Director to advise Council on public affairs issues and work with the President and the Communications Director in preparing position briefs.

#### **COMMITTEE STRUCTURE**

- Standing Committee of CNS
- A minimum of five Committee members from across Canada
- Working groups on individual projects

### **3.10 CNS Bulletin**

The objective for the *CNS Bulletin* is to provide a combined technical journal and news medium for the Society.

The *Bulletin* is normally published quarterly, although the exact timing of an edition fluctuates somewhat, reflecting the timing of major CNS events and the Editor's personal schedule.

The *CNS Bulletin* is sent to all CNS members, to representatives of CNA organizations, to those societies both inside and outside of Canada with whom we have agreements, and to a selected list of other addressees.

Additional information pertaining to the production of the Bulletin is provided in Appendix III.

Editor:	Richard Fluke
Publisher	Colin Hunt (succeeded Fred Boyd in 2015)



### **3.11 Honours and Awards Committee**

#### **Mandate**

- Develop and control methods of selection and presentation for all Honours and Awards approved by Council
- Consider and recommend formation of any new Honours or Awards to be granted by the Society
- From 2002, the CNS and CNA have had a joint H&A Committee that manages and supports the Canadian Nuclear Achievement Awards. Subject to mutual agreement, this arrangement will continue into the future.
- Coordinate yearly awards:
  - Prepare the “*Call for Nominations*” for the Canadian Nuclear Honours & Awards
  - Review / assess responses to “*Call for Nominations*” and select winners
  - Prepare Honours & Awards certificates
  - Prepare citations and other presentation material and present awards at the Annual Conference.
  - Coordinate nominations for Engineering Institute of Canada awards.

#### **Composition**

Committee Chair

CNS President

CNS 1st Vice President

CNS 2nd Vice President

CNA President

Past Presidents (as required)

Industry representatives (must be either CNS members or from a CNA member company)

A University representative for the R.E. Jervis Award

#### **H&A**

The CNS and the CNA recognize the outstanding contributions of members of the Canadian nuclear industry through the Canadian Nuclear Achievement Awards that comprise the following:

- W.B. Lewis Medal
- Ian McRae Award
- Harold A. Smith Outstanding Contribution Award
- Innovative Achievement Award
- John S. Hewitt Team Achievement Award
- George C. Laurence Award for Nuclear Safety
- Fellows of the Canadian Nuclear Society

- Education and Communication Award
- R.E. Jervis Award which recognizes excellence in the work of a graduate student (award originally managed by the University of Toronto in honour of Prof. Jervis)
- President's Award

Information on the various awards and lists of past winners is provided in the Call for Nominations, posted on the CNS website (<http://cns-snc.ca/cns/awards>).

### 3.12 International Liaison Committee

#### **Mandate:**

To promote and assist in information exchange with sister nuclear societies on the international scene.

#### **Duties:**

Assist in facilitating exchange visits for the purpose of co-operation and information exchange pertaining to nuclear science and technology.

Encourage the interchange of technical information, journals and periodicals pertaining to nuclear science and technology.

Provide guidance and support to international societies interested in setting up organizations similar to CNS.

Provide electronic links to sister societies on the CNS Web site.

Inform the sister societies of planned conferences and meetings of international significance.

Maintaining and renewing co-operation agreements. This involves:

- Maintaining a master list of agreements and copies of the agreements themselves
- Provide sister societies with a yearly update of the Council members list & contact persons
- Initiate and assist in renewal activities
- Identify and support new agreements

The list of Societies with co-operation agreements with CNS is provided in Appendix II.

The CNS is also an active member of the *International Nuclear Societies Council (INSC)*, to which most nuclear societies in the world belong, and of the *Pacific Nuclear Council (PNC)*, which is an association of nuclear societies from countries around the Pacific Rim.

The **PNC** oversees the organization of the Pacific Basin Nuclear Conference, which is held every two years. The conference location moves among the member countries, with the sponsoring nuclear society/association taking the lead in organizing the conference.

The PNC has also recently set up four working groups, three of which are to recommend policy and share information amongst the member groups. These working groups are:

1. Re-organization (looking at PNC mandate & operations etc.)
2. Waste storage & disposal
3. Codes & standards
4. Public information & outreach programs

Until recently the major activity of the **INSC** was trying to coordinate major conferences. In the past, significant work has also gone into preparing “position papers” such as the 50-year Vision Booklet. Several other papers may be produced, on matters such as:

- Non-Proliferation
- Nuclear role in the near future
- Public Acceptance
- Radioactive waste
- Young generation issues
- Nuclear Safety
- Risk issues
- Low-dose issues

The list of INSC members is provided in Appendix II.

### **3.13 Intersociety Affairs Committee**

#### Mandate

- To establish closer ties between the CNS and other scientific and engineering societies within Canada
- To promote the exchange of information of mutual benefit
- To enhance the understanding of each other's scientific disciplines and needs
- To communicate the benefits of nuclear power to other scientific societies

The Society has in the past had cooperation agreements with:

- Canadian Radiation Protection Association (CRPA)
- Canadian Association of Physicists (CAP)
- Canadian Society of Nuclear Medicine (CSNM)
- Canadian Nuclear Workers' Council,
- Canadian Society of Mechanical Engineers (CSME)

The CNS is a member of the Engineering Institute of Canada. Presently, the 11 member societies in the EIC are:

- Canadian Nuclear Society (CNS)
- Canadian Dam Association (CDA)
- Canadian Geotechnical Society (CGS)
- Canadian Society for Senior Engineers (CSSE)
- Canadian Society for Civil Engineering (CSCE)
- Canadian Society for Chemical Engineering (CSCHE)
- Canadian Society for Mechanical Engineering (CSME)
- Canadian Society for Engineering Management (CSEM)
- Institute of Electrical and Electronics Engineers (IEEE)
- Canadian Section of the Marine Technology Society (CMT)
- Canadian Medical and Biological Engineering Society (CMBES)

### 3.14 Past Presidents' Committee

#### Mandate

- Advise Council on policies, procedures, briefs, etc., usually on request
- Undertake specific projects when requested by Council
- Help prepare briefs
- Select slate of proposed incoming Council members, prepare the call for elections, and organize the election, which is held at the Annual General Meeting.

#### **Composition**

Chairman: Immediate Past President

Previous CNS Past Presidents

#### **CNS Past Presidents**

1980-1981	George Howey	2003-2004	Jeremy Whitlock
1981-1982	Phil Ross-Ross	2004-2005	Bill Schneider
1982-1983	Phil Ross-Ross	2005-2006	John Luxat
1983-1984	John Hewitt	2006-2007	Dan Meneley
1984-1985	Peter Stevens-Guille	2008-2009	Eric Williams
1985-1986	Joe Howieson	2008-2009	Jim Harvie
1986-1987	Nabila Yousef	2009-2010	Eleodor Nichita
1987-1988	Irwin Itzkovich	2010-2011	Adriaan Buijs
1988-1989	Ken Talbot	2011-2012	Frank Doyle
1989-1990	Eva Rosinger	2012-2013	John Roberts
1990-1991	Hugues Bonin	2013-2014	Adriaan Buijs
1991-1992	Gil Phillips	2014-2015	Jacques Plourde
1992-1993	Bill Midvidy		
1993-1994	Paul Fehrenbach		
1994-1995	Ed Price		
1995-1996	Jerry Cuttler		
1996-1997	Hong Huynh		
1997-1998	Ben Rouben		
1998-1999	Paul Thompson		
1999-2000	Krish Krishnan		
2000-2001	Ken Smith		
2001-2002	David Jackson		
2002-2003	Ian Wilson		

### **3.15 ANNUAL CONFERENCE**

#### **MANDATE**

To organize the CNS Annual Conference.

- Plenary Program
- Technical Program
- Sponsorships & Exhibits
- Coordination of the CNS AGM
- Coordination of the Honours & Awards Event
- Integration of the Student Conference
- Social and Guest Events

#### **Composition**

Organizing Committee, chaired by the President-elect (1<sup>st</sup> Vice-President).

## **DIVISIONS**

### **NUCLEAR SCIENCE AND ENGINEERING DIVISION (NSED)**

The primary mandate is to promote the transfer of nuclear science and engineering technical knowledge amongst CNS members and the CANDU nuclear industry at large.

The secondary mandate is the training of young scientists and engineers in the fundamentals of our craft to ensure our knowledge base is maintained and advanced.

These mandates are to be achieved through conferences, symposia, training courses, and specialist meetings. These activities are to be budgeted to provide a surplus to help advance the general goals of the CNS.

#### **NSED Symposia and Conferences:**

The Nuclear Simulation Symposium has been the traditional conference under the purview of the NSED. This conference typically draws anywhere from 40 to 70 attendees. The conference is usually timed for early spring or late fall. Every third year, the Simulation Symposium is replaced by the International Simulation Conference. The main objective of this conference is to gather reactor physics, thermalhydraulics, fuel, and reactor-safety specialists in one place for the communication of recent work on CANDU and small reactors.

The NSE Division has, at times, assisted in other conference organization, such as the CNS annual conference. Such conferences are not the direct responsibility of the NSED but do help fulfill the NSED mandate.

#### **NSED Courses:**

In recent years, the NSED has organized the CANDU technology and Safety Course, the CANDU Reactor Safety Course (Introductory Level), the Reactor Physics Course, and the Regional Overpower Protection (ROP) system course.

The CANDU Technology and Safety Course is an introductory-level course designed to broaden the scientist's or engineer's knowledge beyond his/her specialty. The course covers CANDU technology and safety through a series of lectures. These lectures cover issues in design, licensing (regulation), reactor physics, thermalhydraulics, ROP, safety, etc..

The ROP course covers the design, operation, and analysis of the ROP protection system for the CANDU reactor. This system is one of the most effective trip-coverage systems ensuring safe operation of the CANDU reactor.



## **Fuel Technologies Division (FTD)**

The mandate of the Division is to promote communication, discussion and peer review by organizing conferences, seminars and courses to facilitate advances in CANDU fuel technology, in sustainable nuclear development and improvements in energy production, including:

- Fuel Design and Development
- Fuel Modelling
- Manufacturing and Quality Assurance
- Fuel Performance
- Fuel Safety
- Advanced Fuel Cycles
- Fuel Handling and Management
- Irradiated-Fuel Management
- Fuel-Code Development for all operating states
- Advanced Code Development.

### **Composition**

Chair

### **Key Activities**

Every two to three years, the Division organizes the International Conference on CANDU Fuel. Twelve of these major conferences have been organized since 2013. The 13<sup>th</sup> International Conference on CANDU Fuel will be held at the Holiday Inn in Kingston, ON, 2016 August. In addition, the Division has organized courses on CANDU Fuel Technology.

The CANDU Fuel Technologies Award was established in 2013. The award is to recognize individual who has made a significant impact and has demonstrated substantial achievements in nuclear fuel development and technology over a long-standing career in this industry. The recipient is presented with a plaque during the International Conference on CANDU Fuel.

## **Design & Materials Division (DMD)**

The Division's objectives are to provide a medium in which the development and implementation of the latest design concepts and the development and use of materials in the solution to design problems in a nuclear environment, can be shared with others practising in these and related fields.

These objectives will be achieved through the organizing of conferences, seminars, and technical courses and soliciting articles for publication in the CNS bulletin.

The goal is to hold a minimum of one conference, seminar or course each year.

Areas covered include but are not necessarily limited to the following:

### **DESIGN**

Mechanical  
Electrical  
Process  
Control  
Monitoring  
Inspection  
Diagnostics  
Human Factors

### **MATERIALS**

Metals  
Elastomers  
Plastics  
Ceramics  
Organics  
Fluids

The organization of events is normally done by ad-hoc Committees, consisting of both CNS members and non-members, who have a specific interest in the subject. There is no centralized direction and currently no standing Committee for the Division. This is probably because the organizations in this area are fairly dispersed.

The most recent activity has been centred on the International Steam Generator and Heat Exchanger Conference, held every few years. This conference has now been renamed the Nuclear Components Conference. It offers the opportunity for contributions from both Design and Materials disciplines with Mechanical, Electrical (I&C) Inspection Operation and Process design aspects represented, among others. The International Nuclear Components Conference 2015 (INCC-2015) will be held in Mississauga, ON, in 2015 November.

## **Nuclear Operations and Maintenance Division (NOMD)**

The Mandate of the Division is to provide a forum for the exchange of information pertaining to the Operation and Maintenance of Nuclear Power facilities.

The Division has three significant initiatives:

1. Operating Utility Engagement, aimed at:
  - Strengthening the interface between the Operating Utilities (OPG, Bruce Power, NB Power and CNL NRU) and the CNS, thus improving CNS visibility at site and increasing participation in CNS events.
  - Strengthening the Branch program at the Utility.
  - Providing a link with the Design and Materials Division, both aimed at the facility operator.
  - Providing industry support for the other Division initiatives listed below.
2. CANDU Maintenance Conference (CMC):
  - Focused on policies and visions, people and skills, processes and tools, and equipment reliability, as key contributors to world-class performance.
  - Very much Operating Utility driven.
  - Typically held in the Toronto area every 3 years in May. The last one was held at the Metro Toronto Conference Centre in May 2014, and the next is planned for May 2017.
3. Fire Safety and Emergency Preparedness (FSEP) Technical Meeting
  - First edition of this meeting was held in Mississauga in June 2015. It was very successful at addressing a new technical area for the CNS while attracting new industry participants.
  - The second meeting will be held in the Toronto area in the Fall of 2017.

## **Composition**

The Division is typically headed by two Co-Chairs, representing the operating utilities and its service providers.

Oversight of The Utility Engagement Initiatives is achieved through a Steering Committee:

- Chaired on rotation by the Design & Materials Chair and the Nuclear Operations & Maintenance Co-Chairs.
- Supported by one or more Utility Representatives appointed by their site Executive Sponsor (typically a Chief Nuclear Engineer or Chief Nuclear Officer).

## **Environment and Waste Management Division (EWMD)**

### **Mandate**

- a) Provide a means for promoting nuclear and environmental science and technology by organizing specialized programs to encourage the exchange of information among E&WM Division members;
- b) Encourage participation in programs of other learned societies to provide a forum for exchange of information in the interdisciplinary field of nuclear and environmental science and technology;
- c) Propose conferences, workshops and seminars to be hosted solely by the CNS or co-hosted with other associations, and to assist conference organizing Committees in defining E&WM topics and speaker, and
- d) To review CNS papers and talks within the E&WM area before presentation and/or publication, to ensure a high standard.

### **Programs**

The Division has held a major international conference about once every five years. The following are potential topics for EWMD conferences:

- Strategy for Siting Surface and Underground Waste Management Facilities,
- Decommissioning and Remediation, and
- Environmental Management Systems

EWMD has also organized symposia and workshops, on topics such as:

- Used fuel and Radioactive Waste Storage Techniques
- Monitoring Techniques
- Medical/Industrial Waste Management
- Radiological Impacts on Non-Human Biota (link with AECB for 1999 Int. Conf.)
- Climate change

### **Past Conferences include:**

#### **International Conference on Deep Geological Disposal of Radioactive Waste**

The International Conference on Deep Geological Disposal of Radioactive Waste, sponsored by the Canadian Nuclear Society, took place in Winnipeg on 1996 September 16-19. The conference, which brought together 270 delegates from 20 countries involved in nuclear waste management, was technically and financially a success for the CNS.

## **Non- Human-Biota Symposium**

A symposium on Radiological Impacts from Nuclear Facilities on Non-Human Biota was held, 1996 December 1-2, in Ottawa. The purpose of the Symposium was to bring the AECB, Environment Canada (EC) and members of the nuclear industry to discuss EC's plans for assessing the toxicity of radiological release on non-human biota, as specified under their Second Priority Substances List (PSL2). This event represented the first time the CNS and the Canadian Radiological Protection Association (CRPA) had acted as co-sponsors of an event. The Symposium was a financial success both for the CNS and the CRPA.

The CNS, through the E&WM Division (Judy Tamm), also participated in the 1999 Workshop on the Radiological Impacts of Nuclear Facilities on Non-Human Biota. This Workshop, held in Ottawa, was co-sponsored by the AECB and the Swedish and Australian nuclear regulatory agencies.

## **Symposium on Climate Change and Energy Options**

The Division organized the Symposium on Climate Change and Energy Options, which was held in Ottawa in 1999 November. The Symposium provided an opportunity for review and discussion of leading-edge developments in the area of available energy options to meet the Kyoto-Protocol commitments.

## **Conference Climate Change 2: Canadian Technology Development**

This Conference was organized as a sequel to the Symposium on Climate Change and Energy Options. It was held at the Holiday Inn on King in Toronto in 2001 October, and was very successful in bringing together experts from all energy sectors.

More recently the Division has provided assistance on the Plenary and Technical Program Committees of the Climate Change Technology Conferences organized by the Engineering Institute of Canada.

## **Symposium on the Scientific and Technical Basis for Protection of the Environment from Ionizing Radiation**

This Symposium, held in Ottawa, ON, 2002 December, was organized in conjunction with the CNA and COG.

## **Fusion Energy Science and Technology Division (CNS-FESTD)**

The mission and goals of CNS-FESTD are the following:

1. Encourage Canada-wide participation and sharing of information on research in fusion, plasma physics, and related sciences and technology through participation in technical sessions/conferences at Canadian Nuclear Society annual meetings (yearly or every 2nd year), or at other meetings and workshops co-sponsored by the CNS (such as CWFEST-2013, CWFEST-2015, PBNC-2014, and others).
2. Promote Canada-wide co-operation and collaboration between universities, various research laboratories, industry and private companies in the area of fusion energy science and technology.
3. Provide resources/information to all stakeholders (e.g. federal and provincial governments, universities, industry, associations, societies) to encourage their long-term, continued and sustained support on Canadian R&D in fusion energy science and technology.
4. Help facilitate the re-birth of fusion science and technology R&D in Canada.
  - Re-build domestic activity in Fusion R&D.
  - Encourage international cooperation.
5. Encourage technical communication among:
  - Scientific researchers
  - Educators, entrepreneurs, enthusiasts.
  - Government officials, etc.
6. Co-operate with various societies (e.g. Canadian Association of Physics, IEEE-Canada, American Nuclear Society, American Physical Society, etc.), and to help co-sponsor and support their efforts with regards to fusion.

### **Organization**

CNS-FESTD has an informal executive, including representatives from across Canada who are involved in fusion energy science and technology development, or who have an interest in the field. Positions within the CNS-FESTD executive include:

- Chair
- Co-Chair
- CNS-FESTD webmaster
- Secretary
- Membership
- Directors - Subject Matter Experts
- Directors - Liaisons with other organizations.

### **Key Activities**

- Inform CNS-FESTD members of news, stories and information about what is going on in fusion science and technology research and development, both in Canada, and in other

nations, including upcoming domestic and international conferences, meetings, workshops, and training courses.

- Organize fusion-related technical sessions at CNS-sponsored conferences, meetings and workshops.
- Maintain CNS-FSTD Website on CNS Website (ongoing).
- Develop a position paper by the CNS for a long-term Canadian strategy for Fusion S&T R&D and commercialization (ongoing).
- Publish an annual CNS-FSTD Newsletter (ongoing).
- Cooperate with other technical societies (such as the American Nuclear Society, IEEE, Canadian Association of Physicists, and others) to provide assistance for technical program committees (TPC) for international conferences to solicit and review technical papers.

## **MEDICAL APPLICATIONS AND RADIATION PROTECTION DIVISION [MARP]**

The main objective is to promote radiation protection in general in aerospace and in the nuclear industries; and also in medical applications as in radioisotopes production and in medical scans.

To keep abreast of radiation protection methodology and update the knowledge base.

Maintain a knowledge of shielding as applied to radiation protection.

Disseminate this information through publications in the CNS Bulletin, the CNS website, specialist meetings, and by Presentations and Seminars. Such seminars were given to:

- University of Toronto
- University of Ontario Institute of Technology
- McMaster University
- Institution on Mechanical Engineers
- Professional Engineers of Ontario [PEO], East Toronto Chapter

Presentations and proffered papers were delivered internationally at IRPA12 in 2008 (Buenos Aires), and IRPA13 in 2012 (Glasgow).



## **Appendix I**

### **List of Nuclear Societies with Cooperation Agreements with CNS (Revised 2015 Aug. 21)**

1. Australia
2. Austria
3. Britain
4. Bulgaria
5. China
6. Croatia
7. European Nuclear Society
8. Finland
9. France
10. Hungary
11. India
12. Israel
13. Japan
14. Korea
15. Latin American Chapter of ANS
16. Malaysia
17. Mexico
18. Morocco
19. Poland
20. Romania
21. Slovak Republic
22. Slovenia
23. USA (ANS)

## Appendix II

### INSC MEMBER SOCIETIES (Updated 2015 August 21)

- American Nuclear Society (ANS)
- Asociación Argentina de Tecnología Nuclear (AATN)
- Associação Brasileira de Energia Nuclear (ABEN)
- Atomic Energy Society of Japan (AESJ)
- Australian Nuclear Association (ANA)
- Canadian Nuclear Society (CNS)
- Egyptian Society of Nuclear Science and Applications (ESNSA)
- European Nuclear Society (ENS)
  - Austrian Nuclear Society
  - Belgian Nuclear Society
  - Bulgarian Nuclear Society
  - Croatian Nuclear Society
  - Czech Nuclear Society
  - Finnish Nuclear Society
  - French Nuclear Energy Society
  - German Nuclear Society
  - Hungarian Nuclear Society
  - Israel Nuclear Society
  - Italian Nuclear Association
  - Lithuanian Nuclear Energy Association
  - Netherlands Nuclear Society
  - The Nuclear Institute
  - Nuclear Society of Russia
  - Nuclear Society of Serbia
  - Nuclear Society of Slovenia
  - Polish Nuclear Society
  - Romanian Nuclear Energy Association
  - Slovak Nuclear Society
  - Spanish Nuclear Society
  - Swedish Nuclear Society
  - Swiss Nuclear Society
- Indian Nuclear Society (InNS)
- Israel Nuclear Society (IsNS)
- Korean Nuclear Society (KNS)
- Latin American Section (LAS)
- Nuclear Energy Society Taipei (NEST)
- Pakistan Nuclear Society (PNS)
- Sociedad Nuclear Mexicana (SNM)
- Nuclear Society of Thailand (NST)

(The Chinese Nuclear Society is considered to be a charter member but has not yet signed the INSC charter)

## Appendix III

*Outline of approach to editing and managing the production of the Bulletin of the Society.*

### Overview

The objective is to make the Bulletin a publication combining both technical papers and news of relevance to CNS members and other readers, which is comparable in quality to those published by other major nuclear societies. This objective is to be achieved within a relatively limited budget, albeit the largest single on-going budgetary item of the Society. (Unlike the CNS Bulletin, almost all of the comparable publications are produced by professionals on the staff of, or contracted by, the societies involved.) In keeping with the objective the size of a typical issue has been increased over the years, colour photographs are now used on the cover, and, over the past several years, advertising has been solicited. At present, advertising revenue approximately offsets the cost of production and delivery.

### Process

The operation of producing the Bulletin is managed by the Editor-in-Chief and the Publisher. The Publisher is a recent role for the Bulletin since about 2006, to manage the business side of production (advertising, invoicing, etc.).

The process of producing an issue of the *CNS Bulletin* begins long before the actual publication. Typically consideration of the next issue begins immediately after closing of an issue. This involves, among other things; consideration of up-coming meetings, reviewing other publications, scanning relevant Web sites, planning a possible focus and selecting (and obtaining permission for) a cover photograph.

During this period the Editor (or delegate) attends and reports on as many CNS seminars and conferences as possible and, where feasible, other relevant conferences and meetings.

Over the interval between issues, technical papers are sought, primarily from CNS symposia but also from any other fora of which the editor is aware. The criteria are: timeliness; relevance; interest to the majority of readers (i.e., not too specialized). This last criterion has been the most restrictive since the majority of papers given at CNS symposia tend to be very specialized and only intelligible to a small group.

Approximately a month before scheduled publication authors of selected papers will be contacted to obtain their acceptance for re-printing their papers and to obtain, if possible, electronic versions.

In parallel with this action an intense review of information sources is made to seek out relevant “general news”.

Material for “CNS news” is typically obtained through contacts with CNS Council members and other key individuals in the nuclear field.

With the exception of technical papers, which are usually re-printed with a minimum of editing, all of the other material gathered is re-written. News articles such as reports on major meetings, are written by the editor. In a typical issue the editor would write or re-write between 1/3 and 1/2 of the content. The editing, writing and re-writing takes 80 to 100 hours, done in an intense period of 1 1/2 to 2 weeks. This workload is typically shared by the Editor and the Publisher.

For the past several years the *Bulletin* has been printed by a modest sized printer in Peterborough, Ontario. Although the physical separation is sometimes a problem they are a very effective, congenial and economical group with whom to deal. They do the “typesetting” and provisional layout from the material sent to them by the editor, now mostly in electronic format. Given that the editor has a reasonable judgement of the amount of material required and of the order desired, they are able to prepare a good penultimate layout. A half day is typically sufficient for the editor to finalize the layout. Both the printer’s personnel and the editor do the proof-reading.

### **Advertising**

Since 1997, advertising has been accepted in the *Bulletin*.

The Publisher currently has the task of soliciting advertising, dealing with potential advertisers, and preparing the information for invoicing. It appears that the *Bulletin* is gradually becoming attractive to advertisers and that we can expect a modest growth in advertising income (assuming we maintain a respectable quality and distribution).

### **Distribution**

Two or three years ago, primarily motivated by the desire to minimize mailing costs, the distribution of the *Bulletin* was extended beyond CNS members. (To obtain “bulk” rates from Canada Post there must be at least 1,000 Canadian addressees.) Initially CNA members were added. Then, in a spirit of “outreach” a number of educators, media, and government people were added.

To date the *Bulletin* has been mailed in envelopes. While this increases the cost somewhat it has permitted the enclosure of other material. Many of the issues over the years have had enclosures or supplements.

## Appendix IV

Description of the positions of:

- Executive Director
- Financial Administrator
- Communications Director

The terms of reference for these positions is basically as follows:

- Working in their respective area (or the two positions collectively), the administrator shall manage all issues, documentation and actions as appropriate for the orderly execution of that work.
- The respective administrator shall resolve and execute all issues and actions within the scope of the terms of reference provided in advance by the Executive under action of Council without further authorization and with “after the fact” communication of activities for information to the Executive and Council as appropriate.
- For issues beyond the terms of reference, the administrator shall research the issue, put the question before the Executive for its direction; likewise issues beyond the scope of the Executive shall be put before Council and/or AGM as appropriate (by/through the Executive).
- The respective administrator shall forward issues to the attention of the Executive as and when required for direction.
- Information reporting shall normally be to the Executive and Council at regular council meetings.

### Executive Director

Executive Director (ED) responsibilities shall include the following:

- Management and tracking of all issues which come to the responsibility of the ED
- Preparation work for Council meeting agendas in support of their issue by the CNS Secretary; and the assembly of background research or assessment information on such items as appropriate
- Maintenance of a running list of issues, actions and initiatives for resolution
- Maintenance of a running list of issues, actions and initiatives for the attention of the Executive
- Assembly of all reports and documentation as required for the orderly execution of the council meetings and dissemination (distribution, projection) of such information at the time
- Definition, where possible, of the issue, action or motion in order to allow quick and orderly decision making by Executive and Council
- Execution of certain items in support of courses, conferences and other program which require administrative action beyond that normally achievable by the CNS office manager. These may include booking of conference facilities and/or other

- administrative items in support of major conferences
- Taking the lead together with the responsible Chair, the Financial Administrative and the Secretary, in tracking agreements with other organizations including CNA, other nuclear societies, other engineering societies, etc and ensures they are current, appropriate and funded as required.
  - Reporting to the Executive on a regular basis and reports to regular Council meetings on activities, issues and actions taken.
  - Other items as appropriate to the terms of reference.

#### Financial Administrator

Financial Administrator (FA) duties shall include the following:

- Any actions necessary to ensure the orderly, controlled and compliant handling of CNS funds - all in support of the treasurer who has the ultimate reporting responsibility and the accountant and that responsibility.
- Works with the treasurer to identify areas of uncertainty, risk or error in management of CNS funds.
- Works with the accountant to identify areas of uncertainty, risk or error in management of CNS funds.
- Tracks exposure on any major CNS commitments such as advanced payments or guarantees for conference facilities or other.
- Scrutinizes and tracks the reporting of events to ensure that all income, expenditures, deposits, rebates, exposures are accounted for.
- Ensures the timely submission of financial reports from major events or other activities.
- Tracks the insurance policies for liability, directors, etc. and ensures they are current, appropriate and paid.
- Reports to the Executive on a regular basis and reports to regular Council meetings on activities, issues and actions taken.
- Other duties as appropriated to the Terms of Reference.