

THE EVOLUTION OF IEEE CANADA – Part 1

Personal Recollections by Gordon R. Slemon

The formation of IEEE Canada in 1994 was the happy culmination of 25 years of rivalry misunderstanding, disappointment, patient effort and diplomatic leadership. Here I record some of the steps in which I had some involvement. I begin with some early history.

The Canadian Society of Civil Engineers was formed in 1887 and became the Engineering Institute of Canada (EIC) in 1918. On three occasions in 1925, 1935 and 1953 the EIC attempted to unify all engineering disciplines in Canada under its umbrella but none of these attempts was successful. EIC also attempted unsuccessfully to merge with the professional regulatory bodies and with the Canadian Council of Professional Engineers.

There were branches of the American Institute of Electrical Engineers (AIEE) in Canada starting in 1903 and branches of the Institute of Radio Engineers (IRE) from 1925. Branches of the UK based Institution of Electrical Engineers (IEE) have operated in Canada since about 1958. In 1963 the Canadian branches of AIEE and IRE merged to form Region 7 of the Institute of Electrical and Electronics Engineering (IEEE).

By 1969 the memberships in these organizations were about 8000 for IEEE Region 7, 1200 for IEE and about 2000 for the Electrical, Communications and Automation Divisions of EIC. Very few belonged to more than one of these bodies. Each had an argument for exclusive terrain:

EIC felt that it was the historic Canadian society deserving of the support of all Canadian engineers.

IEE policy had been to recognize EIC as the national organization in Canada. It refrained from establishing branches here until 1958. The Canadian IEE membership was largely immigrants from UK or from the former British Empire. Their branches were successfully maintaining the link with UK and providing personal interaction.

IEEE members generally felt that they were receiving the services that they valued from their well-established IEEE publications, conferences and sections. They felt that EIC was dominated by civil engineers.

There was a limited amount of local cooperation among the societies usually accompanied by a degree of mutual antagonism. At the same time the fragmentation of the Canadian electrical community was deplored by many and there was a growing mood of nationalism in the country.

It was with this background that a number of us held an informal meeting at the International Electronics Conference in Toronto in September 1969. Three models were discussed:

- an independent Canadian Society of Electrical Engineers,
- a more autonomous IEEE Region 7,
- an EIC-constituent Canadian Society of Electrical Engineers.

It was an omen of things to come that the support for these three models was almost evenly divided at that meeting.

In February 1970, I met with the Toronto Branch of IEE to present a personal proposal for greater integration of existing societies and the possible establishment of a unified Canadian society. They asked me to join their Executive to provide continued liaison.

At the June 1970 meeting of the Canadian Conference on Electrical Engineering Education in Vancouver, another ad hoc group met, reviewed a briefing paper that I had prepared, agreed on the need for a Canadian solution, and appointed a pro-tem Steering Committee consisting of George Sinclair, George Walker, Charles Campling and myself.

This Steering Committee met at the University of Toronto on September 1st, 1970, appointed me as Chair, agreed on the eventual objective of creating a Canadian Society of Electrical Engineers, agreed on promoting close interim cooperation at chapter level (e.g. joint meetings) and agreed that the Canadian Society should negotiate a joint sponsorship of the International Electronics Conference. The Committee agreed to set up working groups and assigned chairs for Publications (Sinclair), Conferences (Campling), Constitution (Walker) and Chapters (Slemon). It was further decided that our Steering Committee should be augmented by assembling a broadly based Corresponding Committee from all the societies.

The Steering Committee met again on September 18th, 1970 in Ottawa, received working group reports and discussed potential membership in an eventual National Executive Committee. We met again on November 6th in Toronto and agreed to expand the Steering Committee to include Lionel Boulet (Hydro Quebec), Ian Dutton (Ryerson), W.H.(Bill) Thompson (IEEE Director), Don George (Carleton), Merv Hambley (Ontario Hydro), Bill Lower (Ferranti-Packard), Herb

Jackson (Ontario Dept. Of Education), B.B. (Ike) Goodfellow (IBM), Gordon Inns.(Bell), G.D. Hutchinson and Don Chisholm (Bell-Northern Research). This provided better balance with the academics being now slightly in a minority. It was suggested that steps be taken to incorporate the Canadian Conference on Engineering Education into the proposed structure. A questionnaire was to be issued asking for opinion on an appropriate name for the organization. A constitution and its membership categories were discussed.

The next Steering Committee meeting was held at the University of Toronto on January 11th 1971. Bill Lower had agreed to act as chair of the Conference Working group. The IEEE, IEE and EIC branches had been invited to nominate people to provide liaison. A draft constitution was presented and discussed. A target was set for launching the new society at the IEEC conference in Toronto in October 1971.

The February 25th 1971 meeting heard responses favouring the name Canadian Society of Electrical Engineering. Discussions with NRC on its participation in publication of a Canadian Journal of Electrical Engineering were reported with Don George as Editor and target launching by January 1972. With regard to local sections three alternatives were proposed - new CSEE sections, merging existing IEEE, EIC and/or IEE sections or setting up joint program committees. CSEE membership categories would be similar to those of IEEE. The governing body of CSEE was to include 10 regional directors.

A general news release was issued on March 15th 1971 providing information on progress. The Committee met again on March 21st and again on April 30th 1971. I had drafted a document; "Toward Unity and Identity - A Rationale for the Canadian Society of Electrical Engineering". With amendments, this was released for general distribution. There was considerable discussion on the basis for negotiations with IEEE. This topic was continued at the next meeting on May 29th at the University of Alberta. IEEE Region 7 was planning a regional office and it became evident that the IEEE Canadian Region 7 plans might be augmented to meet most of the objectives of the proposed CSEE.

Representatives of the Steering Committee met with Mr. J. Mulligan, President of IEEE on the occasion of the International Communications Conference in Montreal in June 25th 1971. In preparation for this meeting, Sinclair, Campling and Slemon produced a draft proposal. Mr. Mulligan was receptive to the proposal to, in his words, "decolonize the Canadian Region IEEE" and noted that there was a current trend toward decentralization in IEEE. The draft proposal was subsequently taken to the IEEE Board where it was substantially adopted. The Board also made a financial commitment of \$110,000 to assist the Region in local organizational projects. They proposed a three step process:

- 1 The Canadian Region to pick up national functions within Canada
- 2 The Canadian Region to gradually pick up in 1972 some functions now being performed by headquarters
- 3 The Canadian Region to move away from IEEE except for technical information exchange and international functions.

Based on this encouraging meeting the Steering Committee sent out a general newsletter reviewing past discussions and proposing that:

- The Canadian Region evolve toward incorporation as a Society in Canada while remaining within the IEEE framework
- The Region implement steps toward a Canadian identity
- The Region constitute a committee to plan an orderly method to achieve Canadian identity while ensuring compatibility with the international activities of IEEE
- A proposed constitution be prepared to be submitted to the IEEE Board targeted for ratification by December 1972
- The Canadian Region committee continue to work with the other societies to rationalize the Canadian scene.

At the September 1st 1971 meeting of the Steering Committee in Toronto these proposals were formally adopted. For the record, those attending were Thompson, Sinclair, Goodfellow, Hambley, Campling, Perron, Carroll, Hinton, Brereton, Hutchinson, Dutton, Walker and Slemon. Regrets were received from Chisholm, Lower, George, Inns and Jackson. At this meeting I was appointed to continue liaison among IEEE, CSEE and IEE.

A session was arranged at the IEEC Conference on October 5th 1971 to discuss the current moves in the formation of a Canadian society. The panel consisted of Sinclair as Chair, Slemon to report on the history of discussions, Thompson to outline the current proposals and Chisholm to add his weight to these proposals.

Another informal meeting, lead by Campling, Sinclair, Walker and Slemon, was held in conjunction with the EIC meeting in Quebec City on September 1st to discuss current developments. On that occasion Thompson and Slemon met with Ken Taylor, the Canadian representative of IEE and with L. Hutchinson, President of EIC.

Early in 1972, IEE appointed Jim Tinsley to represent them on the Steering Committee. In April he wrote an open letter to the IEE membership in Canada outlining progress on discussions.

At our meeting on May 12th 1972 it was noted that for some months EIC had been reorganizing itself as an umbrella organization to carry on its operations through a group of discipline-oriented constituent societies. It was re-examining the possibility of launching an independent CSEE. I wrote to John Dinsmore, President of EIC, outlining our activities, proposing a plan for our approach to be accomplished within the EIC umbrella and inviting him to join our Steering Committee. He agreed and we met in Halifax for discussions.

Dinsmore attended the next Steering Committee meeting on July 25th 1972 held at the EIC building in Montreal. He described the present three constituent societies within the new EIC structure and indicated that a proposed policy on an electrical component was being prepared for consideration by the EIC Executive Committee in October 1972. It was understood that his Task Force on this matter would work closely with our Steering Committee. At this meeting our committee decided to ask for EIC endorsement of our approach. It decided to invite Ken Taylor to join the Steering Committee to represent IEE. It recommended that the IEEE Region 7 enter into negotiations with EIC to determine a basis for IEEE Canada to become a constituent society under EIC. It further recommended that the IEEE Region 7 that it consider launching a Canadian electrical engineering publication. While direct negotiations between the IEEE Region 7 and EIC were ongoing, the Steering Committee would continue to monitor progress.

At the EIC Annual Meeting in Saskatoon in October 1972 a resolution was passed supporting the formation of an electrical constituent society within the existing constitutional structure of EIC. An EIC Steering Committee was appointed consisting of its chair T. Pavlasek (McGill), L. Roy (Hydro Quebec) and P. Shane (Manitoba Hydro) with instructions to report to the EIC Council in January 1973.

Dinsmore met with our Steering Committee on December 12th 1972 in Toronto, reviewed the EIC actions and supported the concept of an independent constituent society which could negotiate from strength with IEEE in Canada. Several changes had occurred in the membership of our Steering Committee so for reference here is the attendance list: Armitage, Campling, Dinsmore, Kerr, Lower, Sinclair, Slemmon, Taylor, Pavlasek and Alden with regrets from Dutton, George, Walker, Doug Hinton (IEEE Director) and Bob Tanner (IEEE President). Ken Taylor outlined the branch structure of IEE in Canada and stressed that individuals in IEE would be reluctant to give up their IEE memberships. The meeting felt that a publication could well be launched with NRC support if jointly requested by IEEE and EIC.

Bob Alden reported on the increased regional activity in Canadian IEEE and on a preliminary proposal to convert the IEEE Region 7 into a constituent society of EIC. The IEEE Canadian Regional Committee had formed an Intersociety Relations Committee to enter into discussions with EIC on cooperation. Our Steering Committee welcomed this action and agreed to set up a joint Task Force chaired by Slemmon with two representatives each from EIC and IEEE. The terms of reference included formulating mutually acceptable objectives, developing plans for realizing these objectives and developing an action program particularly for launching a publication.

In January 1973, the EIC Executive decided to defer action on cooperation until it had taken definite steps forward by creating CSEE. It established a provisional CSEE Executive Committee under the chairmanship of Tom Pavlasek with the following membership: Blachford, Campling, Dinsmore, Roy, Shane, Walker, Boulet, Chisholm, Holbrook, Light, Herzog and Slemmon. This group met in May 1973. Representation on the Task Force that was proposed by our Steering Committee was approved.

At its meeting on September 30th 1973 the EIC Council responded to a petition from 2000 EIC members and established "de jure" a Canadian Society of Electrical Engineers. Actual "de facto" formation of the society would be pursued.

I met with the IEEE Regional Executive in October 1973 where a resolution was passed - welcoming cooperation with CSEE. Representatives were named to what was now to be called the CSEE-IEEE Joint Committee.

This CSEE-IEEE Joint Committee met on October 25th 1973 at the University of Toronto with Tom Pavlasek and Harold Lily representing CSEE, Murray Fraser and Bob Alden representing IEEE and myself as Chair. It was decided that Pavlasek and Slemmon would each prepare statements to be included in the next IEEE Newsletter and that this newsletter be made available to CSEE and IEE members and to the press. Plans were made to have CSEE-IEEE cooperation included in the program of the Canadian Conference on Electrical Engineering Education in Ottawa in 1974. It was recommended that the IEEE Region 7 name an observer on the CSEE Publication Committee. Cooperation at the local level was encouraged particularly with regard to students. IEEE Toronto Section involvement in the EIC Annual Meeting to be held in Toronto was proposed.

Perhaps naively I was optimistic that real progress toward unity was being made. However CSEE had now a structure in place with a enthusiasm for its full development. Emphasis was on signing up members, on launching of the Canadian Electrical Engineering Journal and on organizing local sections. The IEEE Region 7 was well established and had little

incentive at the local level for change. While IEEE provided an excellent source of technical information and services to its members, it continued to be seen by many in Canada as a foreign or American institution which could not represent the national concerns of Canadian electrical engineers. The fundamental differences between CSEE and IEEE continued to limit their joint activity to limited local cooperation. The roadblocks to merging remained high. For the rest of the 1970's there was little enthusiasm for merger efforts. In January 1976 the Canadian Electrical Engineering Journal started publication.

In the mid 70s Bob Saunders, a USA-based Canadian and President of IEEE, introduced policies which promoted cooperation between IEEE and national electrical engineering organizations. Limited arrangements for fee collection and in some cases discount were set up with Italy, Israel, Poland, France, Switzerland and Germany. This was a small but important step forward.

In the late 70s IEEE inaugurated its United States Activities Board (USAB) supported by the USA membership to promote their national interests. This provided added credibility to the concept of IEEE as a transnational organization even though its membership continued to be dominantly USA based.

In October of 1980, the CSEE President Dinkar Mukhdekar, the IEEE Canada Director Jacques Archimbault and the past and incoming chairs of the Joint Publications Council, Sinclair and Swamy, met with IEEE President Leo Young in Montreal. Cooperation between IEEE and CSEE was reviewed. It was recommended that technical activities be more coordinated and that joint membership fees be negotiated. Eventual merging was mentioned as deserving consideration but only in the long term.

In the early 80s the isolation between the two societies continued. The growth of CSEE membership since 1977 had been negligible. There were relatively few joint members and no concessions had been reached on joint fees. CSEE had established 5 local sections as compared to the 17 IEEE sections. There were some moves to establish competitive CSEE student branches. There was still not a clear voice for electrical engineering in Canada and there was a lack of Canadian representation in the international community. The needs identified a decade earlier were still there and the solution of separate organizations had not worked.

I decided that another attempt should be made to arrive at a unified Canadian body. To initiate this I invited an ad hoc group to a dinner at Massey College, University of Toronto, for January 21st 1983. Attending were Fred Heath, IEEE Regional Director; Tas Venetsanopoulos, President CSEE; Past Presidents of CSEE, Tom Pavlasek, Colin di Cenzo and Chuck Campling; Past IEEE regional Directors, George Sinclair and Giles Perron; George Armitage, Manager of the IEEE Canada office; Walter Zvarich and R.B. Caputo from the IEEE Toronto section; Andrew Wilson and Peter Wright from EIC and myself. Regrets and indications of support were received from Lionel Boulet, Jacques Archimbault, and Dinkar Mukhdekar, Wally Read and Ted Glass. Recognizing the complementary strengths of the present organizations and the continuing desire for unity, this group unanimously signed a petition asking the IEEE Region 7 and CSEE to form by May 1 1983 a joint committee with three members from each society plus a mutually agreeable chairman to bring forward a plan for implementation on January 1, 1985 to bring into existence an incorporated society for electrical engineering in Canada including members from IEEE and CSEE. With the leadership of this prominent and broadly based group we were optimistic that unity could at last be achieved.

The CSEE Board met in Montreal on March 25 1983, its first meeting for 30 months. It unanimously endorsed the petition and named Tas Venetsanopoulos, Tom Pavlasek and Paul Shane as its representatives on the Joint IEEE-CSEE Committee. The IEEE Region 7 appointed Fred Heath, Tom Bell and Ted Glass. Both societies asked me to be the chair, a dubious choice considering my previous lack of success a decade ago in forging a merger.

The Joint IEEE-CSEE Committee met on July 12th 1983 at the University of Toronto. Only Heath attended for IEEE, Venetsanopoulos and Pavlasek for CSEE. I had drafted a proposal for relations between the societies covering structure, membership, relations with IEEE and EIC, sections, management, publications and fee structure. This was amended and approved for presentation to the two executive bodies. Following their consideration of the proposals a referendum in the membership of both societies was envisioned for April 1984.

The CSEE Board endorsed the plan at its meeting on September 24th 1983. The plan was placed on the agenda of the IEEE Regional Meeting in Toronto held on September 25th as the last of 7 committee reports in a 90 minute session. My presentation was of necessity brief. There was no opportunity to argue the benefits to IEEE members. While there was favourable comment, opposition was voiced by several section chairmen who appeared to resent CSEE intrusion into their territory. From their comments it was evident that IEEE members identified closely with their section and for some with their chapter. There was concern about a potential increase in fees. No decision was taken with respect to support in principle. But it was agreed that I would prepare an article for publication outlining the proposal in more detail.

The article was entitled 'A Proposal for the Future of IEEE Region 7 and CSEE'. It covered the essence of the January 1983 meeting and the plan which had been developed by the Joint Committee. It was published in the January 1984 issue of Canadian Electrical Engineering Journal. It also appeared in the CSEE section of Engineering Digest in March and, as such, could come to the attention of some 30,000 potential electrical engineering members.

I received a large number of letters giving strong support for the concepts in the article. It appeared to be an idea whose time had come. But it was not to be. The IEEE Regional executive met in May 1984 passing the following motion: "While sympathetic with the motivation, we do not agree with the approach taken and we recommend that no action be taken at this time". In informing me of this, Wally Read, IEEE Executive Vice-President, wrote, "the membership feels that such a proposal could be divisive because of the strong attachment our members have for IEEE". The IEEE executive favoured trying to achieve a better Canadian identity for the Region 7. Wally asked if I would comment on how IEEE Region 7 could improve its Canadian role.

It was not until August of 1985 that I found opportunity to respond to Wally's request by writing the article "Toward a Greater Canadian Identity for IEEE Region 7". Briefly I suggested the following:

- 1 Monitoring the health of engineering education in Canada in a way similar to the role of IEEE in USA in its involvement in accreditation.
- 2 Establishing a single unified student branch in each Canadian university and college.
- 3 Establishing an extended system of achievement awards for electrical engineering in Canada.
- 4 Increasing involvement in national events in Canada.
- 5 Developing representation of Canadian electrical engineering in international bodies.
- 6 Developing cooperative agreements with other national electrical bodies.
- 7 Providing a source of personnel for membership on Canadian committees.
- 8 Providing an electrical engineering magazine in Canada.
- 9 Setting the stage for future negotiations with CSEE by acting on these eight initiatives thereby accomplishing much of the objective for which CSEE was originally created.

Through an intermediary, Alex Curran, I made the suggestion to Gordon English, incoming IEEE Canadian Director, that a small group be formed to draw up a program for IEEE Region 7 incorporating some of these initiatives. If the senior officers of the Region were supportive then support could be recruited from a few hundred leading IEEE members in Canada. My feeling was that the necessary leadership could not be expected from those section chairs who make up the majority of the IEEE Region Committee. English was sensitive to the need for Canadian identity particularly in international matters. He noted that Canada was one of the few developed countries which had no national electrical engineering association. However, any attempt to promote IEEE Region 7 as the voice for Canadian electrical engineering in international bodies would appear to others as a second vote for the USA-based IEEE.

Another need for Canadian electrical engineering action arose in 1985. The 1987 Centenary Celebration of Engineering in Canada was approaching. On behalf of the organizing committee, Jim Ham was pressing for action on arranging electrical sessions for this prestigious event. Eventually it was IEEE Region 7 alone that provided the electrical part of the program. Even for this national celebration, cooperation was still very limited.

Throughout 1986, 1987 and 1988 there appears to have been little if any initiative taken with regard to increasing cooperation between IEEE and CSEE. Mohamed El-Hawary was President of CSEE in 1986 and 1987 handing over to Cam Blachford in 1988. Gordon English as IEEE Regional Director continued his efforts to increase the Canadian identity of IEEE Region 7.

Bob Alden, who became the Director for IEEE Canada in 1988, revived the discussion of unification, publishing an article in the March 1989 issue of the IEEE Canadian Review, "A Single Canadian Electrical Engineering Body: An Achievable Goal?". In this he noted that competition was expensive in both membership fees and volunteer time. He emphasized the transnational evolution of IEEE, the impact on Canada of internationalization of trade and the increased Canadian identity of IEEE Canada. He posed the question; "Can we conceive of an IEEE Canada which is viewed by IEEE as Region 7 and by EIC as the Canadian Society?".

I wrote to Bob applauding him on his initiative and recommending a set of graduated, non-threatening steps which might be taken: co-sponsorship of the CSEE-operated conference, joint representatives on international bodies, a joint newsletter that might grow into a magazine and finally a representative of IEEE Canada on the EIC Council. I do not have information on the reaction to the Alden article or his efforts toward merger during his directorship.

For most of the past 20 years I had been a member of the executives of the three electrical engineering societies in Canada - IEEE, CSEE and IEE - in each case with the portfolio of intersociety relations. IEE in Canada was determined to

continue its close linkage with its parent organization in London and expressed no willingness for merger. IEEE Canada was becoming increasingly Canadian and CSEE was just surviving. Further progress would depend on having favourable and forceful leadership simultaneously in both CSEE and IEEE Canada.

In 1990 John Plant became President of what was now CSECE and Tony Eastham became the Director of IEEE Canada. In August of that year Eastham wrote to Plant outlining his personally proposed set of steps leading to merger. The opportunity of favourable leadership in both societies had now occurred and I could only applaud.

In September 1991 the incoming IEEE Canada Director Vijay Bhargava and the incoming CSECE President Jean-Remi Giroux met and asked their outgoing counterparts Plant and Eastham to produce a discussion paper for consideration by the two executives followed by recommendations for consideration by the memberships of both societies. .

The autumn 1992 issue of the IEEE Canadian Review carried an article co-authored by Plant and Eastham; "IEEE Region 7 and CSECE - Is a merger desirable and feasible?". This article presented the options and called for broad discussion among the membership and for consideration by the IEEE Regional Meeting and the CSECE Annual Meeting. Its recommendation was unequivocal - an amalgamation recognized by EIC as a constituent society and by IEEE as Region 7.

In their conclusion they expressed the hope that a favourable decision could be taken by both societies in the fall of 1993 for implementation on January 1, 1994. And so it happened.