



COMMISSION INTERNATIONALE DE L'ÉCLAIRAGE  
INTERNATIONAL COMMISSION ON ILLUMINATION  
INTERNATIONALE BELEUCHTUNGSKOMMISSION

Canadian National Committee Comité National Canadien



---

## **CNC/CIE Annual Report 2002**

Minutes of 47th Annual Meeting  
2002-October-05

and

Division Members' Reports



COMMISSION INTERNATIONALE DE L'ÉCLAIRAGE  
INTERNATIONAL COMMISSION ON ILLUMINATION  
INTERNATIONALE BELEUCHTUNGSKOMMISSION

Canadian National Committee Comité National Canadien



---

## MINUTES OF THE 47<sup>TH</sup> CNC/CIE ANNUAL MEETING

2002-October-05

The 47th annual meeting of the Canadian National Committee of the Commission Internationale de l'Éclairage (CNC/CIE) was held on Saturday, 2002-October-05 at the Novotel Accor Hotel, 31 Nicholas Street, Ottawa, Ontario K1N19M7. This meeting followed and was co-located with an IEA Task 31 (Daylighting Buildings in the 21st Century) and CIE Division 3 (Interior Environment and Lighting Design) Joint Meeting and mini-conference held from September 30 to October 04, 2002.

**Note:** the following acronyms may be used in this report:

CIE	Commission Internationale de l'Éclairage
CNC/CIE	Canadian National Committee of the CIE
CIE/USA	US National Committee of the CIE
CIE-BA	CIE Board of Administration
CIE-CB	CIE Central Bureau
NC	CIE National Committee
TC	CIE Technical Committee
NRC-INMS	Institute for National Measurement Standards at the National Research Council of Canada
NRC-IRC	Institute for Research in Construction at the National Research Council of Canada
NRC-IRO	International Relations Office at the National Research Council of Canada
DRDC	Defence Research and Development Canada
IEA	International Energy Agency
M/AM	Members/Advisory Members

### 1. Call-to-order:

The 47th annual meeting of the Canadian National Committee of the Commission Internationale de l'Éclairage (CNC/CIE) was called to order at 9:30 on Saturday, October 05, 2002 by S.M. McFadden, President.

Fourteen Members and Advisory Members, and one visitor, were in attendance. The list of all attendees is given in Appendix A. During Item 3 below, at the President's request, attendees introduced themselves.

Moved by J.A. Veitch, seconded by I.C. Pasini, that the agenda, as circulated by mail (Appendix B), be approved. Passed.

### 2. Election of Reporter for the Lighting Press:

M.K. Timmings indicated that he was willing to continue in this capacity. To date, he had not found any suitable outlets since *Lighting Magazine* appears to be defunct. He indicated that he would try to work from the Minutes of the meeting to prepare a press release, and requested that they be made available as soon as possible.



### **3. Minutes of the 46<sup>th</sup> CNC/CIE Annual Meeting:**

The secretary indicated that these had been made available in electronic format before the meeting and had been sent to all people on the CNC/CIE email list. A hard-copy version was not yet prepared. It was moved by J.A. Veitch, seconded by J.C. Zwinkels that these Minutes be accepted, without any changes. Passed.

The Action Items from these Minutes were considered and the actions taken are reported in Appendix!C. There were no Matters Arising.

### **4. President's Report:**

S.M. McFadden presented her report, which is attached as Appendix!D. She briefly discussed each item in the report. It was moved by A.R. Robertson, seconded by J.A. Veitch, that the report be accepted. Passed.

### **5. Secretary's Report:**

A.A. Gaertner presented his report, which is attached as Appendix!E. It was moved by J.A. Love, seconded by J.A. Veitch, that the report be accepted. Passed. It was asked whether the publication *CIE NEWS* was available on the WWW. (It has been determined after the meeting that it is available on the CIE-CB site at <http://www.cie.co.at/ciecb> under the heading News Bulletins.) The Secretary indicated that he had received a request from the journal *Lighting Research and Technology (LR&T)* that we publicize the journal within the CNC/CIE. J.A. Veitch indicated that she was on the Advisory Board of *LR&T*, that it is a very useful journal, and recommended that we send out some of their information with one of our CNC/CIE general mailings. Agreed.

### **6. Financial and Publications Report:**

The Publications Officer, K.F. Lin, was unable to attend this meeting. His report (Appendix!F) was distributed and presented by the President.

Publications: It was noted that the CIE-BA had reduced the price of the CIE publications by 50% effective 2002-July-01, and that the Secretary had informed the CNC/CIE membership in a subsequent general mailing. However, the President indicated that various National Committees (NCs) had responded in different ways—some reducing their prices by only part of the 50%, some not at all, using the difference to assist the NC to fund its activities. Discussion followed concerning the best course of action for the CNC/CIE. It was moved by B. Jordan, seconded by A.R. Robertson, that we reduce the price the CNC/CIE charges for the CIE publications by 50%. After some discussion, the motion was tabled until later in the meeting after we had discussed the financial report.

Finances: The various items were reviewed. Concern was expressed about the manner in which travel expenses were reimbursed by the CNC/CIE. After some discussion it was agreed that the CNC/CIE requires a proper review procedure. Two attendees, J.A. Veitch and J.C. Zwinkels, were tasked with producing (during the lunch break) a first draft of a CNC/CIE policy for the reimbursement of expenses.

It was moved by J.A. Love, seconded by I.C. Pasini, that we accept the Financial and Publications report. Passed.

### **7. Reports from Division Members:**

Note: The reports received from the Division Members are attached at the end of the Minutes, after all the Appendices.

**DIVISION 1****Vision and Colour****S.M. McFadden**

S.M. McFadden presented her report. She highlighted the new TCs and Reporterships, and indicated that many of the Division 1 reports are available on the Division 1 website. She noted that the work of Division 1 produces many of the specifications that other divisions use in their measurements and applications. A.R. Robertson raised the possibility of the CNC/CIE nominating S.M. McFadden as a candidate for the CIE Division 1 Director. S.M. McFadden would consider this possibility and determine the level of support available.

**DIVISION 2****Physical Measurement of Light and Radiation****J.C. Zwinkels**

J.C. Zwinkels presented her report and discussed the main items. She indicated that we must encourage Canadian participation in the TCs. She highlighted the proposed new TC: *Round Robin Investigation of Implementation of CIE Photobiological Safety Standard*, especially to Division 6 members. N. Stoev noted that he was unable to purchase a copy of the new CIE Standard S009/E:2002 *Photobiological Safety of Lamps and Lamp Systems*, suggesting that the problem may be related to this proposed new TC. The Secretary was requested to determine from CIE-CB whether S009 was available. With respect to the three proposed Reporterships: J.A. Veitch indicated that Division 3 is also interested in *Characterization of Imaging Luminance Measurement Devices*, and A.R. Robertson wishes to be involved with *Problems with Spectroradiometric Measurement of Light Sources Associated with Bandpass and Sampling Intervals* because of his involvement in TC 1-57. M.K. Timmings noted that for the Reportership *Problem Linked to Correct Measurement of TL5 Fluorescent Lamps with Existing Electronic Ballast* the problems might be due to the considerable difference in temperature between the conditions when the photometry is done and when the lamps are used.

**DIVISION 3****Interior Environment and Lighting Design****I.C. Pasini**

I.C. Pasini noted that CIE Division 3 had just met the day before this meeting, so no written report was yet available. He presented an oral report and indicated he would try to provide a written report to the Secretary for inclusion with the Minutes. J.A. Veitch gave an oral report on the work of TC 3-34, indicating that they hoped to have a report in time for the San Diego meeting in June 2003. The question was raised about how the vocabulary issues for the *International Lighting Vocabulary* were to be decided—was each Division expected to do their own?

----- The meeting broke for lunch -----

**6a. Finances:**

J.A. Veitch and J.C. Zwinkels presented their first draft (see Item 6 above) of a CNC/CIE policy for the reimbursement of expenses, attached as APPENDIX G. After some discussion, it was moved by A.R. Robertson, seconded by S.M. McFadden, that we nominate J.A. Veitch and J.C. Zwinkels to prepare a second draft of the CNC/CIE policy for the reimbursement of expenses, by 2002-November-15, and that the Secretary email this to the CNC/CIE Member and Advisory Member email list for COMMENTS prior to a hard-copy ballot. Passed.

**6b. Publications:**

Consideration returned to the price of CIE Publications as charged by the CNC/CIE (see Item 6 above). An amendment to the motion in Item 6 above, that the CNC/CIE reduce the price it charges for CIE Publications by 30% instead of 50%, was moved by J. Roberge and seconded by I.C. Pasini. Passed. The amended motion, that the CNC/CIE reduce the price it charges for CIE Publications by 30%, was then voted upon and passed.

## **7. Reports from Division Members (continued):**

### **DIVISION 4                    Lighting and Signalling for Transport                    W.K. Adrian**

W.K. Adrian was unable to attend this meeting. No report had been submitted.

### **DIVISION 5                    Exterior and Other Lighting Applications                    J. Roberge**

J. Roberge presented his report and discussed several of the TCs and Reporterships. He noted that his report did not include any information from the Division 5 meeting held in Torino the previous week, and that he had been unable to attend that meeting. M.K. Timmings asked if it would be possible to see copies of draft versions of the TC reports. It was pointed out that this might be possible by contacting the TC members, or by becoming involved in the work of the TC.

### **DIVISION 6                    Photobiology and Photochemistry                    J.D.Y. Deslauriers**

J.D.Y. Deslauriers was unable to attend this meeting, but he had submitted a report, which was distributed to the members for their information.

### **DIVISION 8                    Image Technology                    R. Baribeau**

R. Baribeau presented his report, pointing out the various TCs and Reporterships. He noted that the Division has only had a few informal meetings, with no official meetings. As a result, he indicated that his report was based on information available on the web. Some of the attendees expressed concern that there had been no regular official meetings. A.R. Robertson noted that the CIE Code of Procedure requires that each Division meet formally at least twice in each CIE term (a term is normally four years). B. Jordan expressed an interest in participating in TC 8-02: *Colour Difference Evaluation in Images*.

## **8. Nominations and Appointments (CNC/CIE):**

The Secretary distributed a list of the current CNC/CIE Members and Advisory Members (Appendix H).

**8.1 Members:** The President noted that the terms of five of the Members would end this year. Each of them is eligible for re-nomination. It was also noted that we have several active Advisory Members, such as M.K. Timmings and B. Jordan, who should also be considered for Membership. This raised the issue that our present Code of Procedure limits our Membership to 12, with a reasonable geographic balance. It was moved by A.R. Robertson, seconded by J.A. Veitch, that each Division Member should be supported by a minimum of two Advisory Members to act as advisors and helpers. This practice would also help in succession planning for each Division Member. The motion was passed. To assist in the implementation of this motion, the President volunteered to discuss this with the Division Members who were unable to attend this meeting, and to formally approach Advisory Members to serve. Several members were suggested:

J. Bastianpillai for Division 4, M.K. Timmings for Division 3 or 5 and R.A. Smith for Division 3.

It was moved by M.K. Timmings, seconded by J.C. Zwinkels, that we formally approach the NRC to determine whether we may change the structure of the CNC/CIE so that the Membership of the CNC/CIE be composed of a maximum of 12 Members-at-Large, plus the seven Division Members. Passed. This would enable us to obtain a better geographical representation with volunteers who were willing to be active as Members.

After further discussion, it was moved by J.A. Veitch, seconded by J. Roberge, that the following nominations be presented to the NRC for CNC/CIE Membership:

- i. W.K. Adrian for a term of one year,
- ii. I.C. Pasini for a term of three years, and

iii. R. Baribeau, J.A. Love, and J.C. Zwinkels for a term of four years.  
Passed.

### 8.2 Advisory Members:

The Secretary presented the request and CV of Dr. W.T. Delpero who had requested Advisory Membership. It was moved by M.K. Timmings, seconded by J.A. Veitch, that W.T. Delpero be admitted as an Advisory Member. Passed.

N. Stoev recommended John W. Harron, who was in attendance at this meeting, to be appointed as an Advisory Member. It was moved by N. Stoev, seconded by M.K. Timmings, that J.W. Harron be appointed as an Advisory Member. Passed.

I.C. Pasini stated that Karen Pero would be replacing him at Public Works when he retired, and that she was well qualified to be an Advisory Member. It was moved by I.C. Pasini, seconded by J.A. Love, that Karen Pero be appointed as an Advisory Member. Passed.

N. Stoev indicated that he would contact some people who might be interested in the CNC/CIE. J. Roberge stated that he would talk to J. Lacasse and A.H. Mendel in Québec concerning their continued interest in Advisory Membership.

### 8.3 Nominating Committee:

The President indicated that the terms of both the President and Vice President would be ending in the near future. It would be preferable to have a nominating committee to consider these nominations.

The President stated that W.K. Adrian had indicated to her that he would like to resign from the position of Vice President. After some discussion, it was moved by J.A. Veitch, seconded by J. Roberge, that we nominate J.C. Zwinkels to the position of Vice President for a one-year term. Passed.

S.M. McFadden pointed out that her term as President ended at the end of 2003, and that she did not wish to stand for re-election.

The President and the two past-Presidents (J. Roberge and A.R. Robertson) were tasked as a committee, with S.M. McFadden as chair, to nominate potential candidates for the next CNC/CIE President.

## **9. CIE 25<sup>th</sup> Session, San Diego 2003, 25 June to 02 July:**

The President gave a brief outline of the session, as presented in her President's Report (Appendix D). Many of the attendees indicated that they were considering attending the meeting in San Diego.

It was moved by J.A. Love, seconded by J.A. Veitch, that we nominate the President, S.M. McFadden, as the official CNC/CIE delegate (GA-member) to the CIE General Assembly meeting in San Diego, and the Vice President-elect J.C. Zwinkels as alternate delegate (Appointed alternate with voting right). Passed.

## **10. Other Business:**

10.1 Correspondence: The President reported that she had sent a letter to South Africa as indicated in her report (Appendix D). J.A. Love indicated that he has brochures for the Lux Europa to be held in Berlin on September 19-21, 2005.

10.2 Date and Place for next year's meeting: The President indicated that if we wish to continue the tradition of meeting every two years with the CIE/USA, then it is our turn to host the meeting next year. The attendees concurred that a possible date be the weekend of October 24 to 26, 2003,

to be held in Montréal, and set up a committee of B. Jordan, J.A. Love, and R.A. Smith to organize the meeting. The President will issue the formal invitation to the CIE/USA and establish the initial contacts.

10.3 Other Business: There was no further business.

### **11. Adjournment:**

The meeting was adjourned at 16:20 upon a motion by J. Roberge, seconded by M.K. Timmings.

A.A. Gaertner  
Secretary, CNC/CIE  
Institute for National Measurement Standards  
National Research Council of Canada  
Ottawa, Ontario K1A 0R6

Tel: (613) 993-9344  
Fax: (613) 952-1394  
Email: [arnold.gaertner@nrc-cnrc.gc.ca](mailto:arnold.gaertner@nrc-cnrc.gc.ca)

2003-March-18

**CNC/CIE 47<sup>th</sup> Annual Meeting**  
 2002-October-05  
**Action Items**

<b>Minutes Item Number</b>	<b>Responsible</b>	<b>Action</b>
2	M.K. Timmings	distribute CNC/CIE information to the lighting press
3	A.A. Gaertner	contact E. Szamosi at CSA re possible Advisory Members
3	J.A. Love	check Ontario Hydro contacts re possible Advisory Membership
3	A.A. Gaertner	poll Advisory Members for their continuing interest in CNC/CIE and CIE
3	all	consider 2003 replacement for J. Roberge (Division 5 Member)
3	Pres,VP,Sec,Treas.	develop proposed criteria for use of CNC/CIE funds
5	A.A. Gaertner	mail out info re journal <i>Lighting Research and Technology</i>
7	A.A. Gaertner	contact CIE-CB re availability of CIE S009
6a	J.A.Veitch, J.C.!Zwinkels	prepare a 2 <sup>nd</sup> draft of CNC/CIE Policy on Reimbursement of Expenses
6a	A.A. Gaertner	email above draft to M/AM for COMMENTS, then hard-copy ballot
8.1	S.M. McFadden	approach possible AM to serve as Division Member advisors and helpers
8.1	Division Members	implement group of helpers/advisors
8.1	A.R. Robertson	approach NRC re changing structure of CNC/CIE Membership
8.1	A.A. Gaertner	Member nominations for W.K. Adrian, I.C. Pasini, R. Baribeau, J.A.!Love and J.C.!Zwinkels
8.2	A.A. Gaertner	Advisory Member appointments for W.T. Delpero, J.W. Harron, and K.!Pero
8.3	S.M.!McFadden, J.!Roberge, A.R.!Robertson	prepare nominations for CNC/CIE President
10.2	S.M.!McFadden	invite CIE/USA to next year's joint meeting in Montréal
10.3	B.!Jordan, J.A.!Love, R.A.!Smith	organize 2003 joint meeting with CIE/USA



## **LIST OF APPENDICES**

- APPENDIX A: Attendees to the 47<sup>th</sup> CNC/CIE Annual Meeting 2002-October-05
- APPENDIX B: Proposed Agenda for the 47<sup>th</sup> CNC/CIE Annual Meeting 2002-October-05
- APPENDIX C: Action Items from the 46<sup>th</sup> CNC/CIE Annual Meeting 2001-November-16
- APPENDIX D: President's Report
- APPENDIX E: Secretary's Report
- APPENDIX F: Financial and Publications report
- APPENDIX G: CNC/CIE Policy for the Reimbursement of Expenses, first draft.
- APPENDIX H: CNC/CIE Members and Advisory Members

## APPENDIX A

### Attendees to the 47<sup>th</sup> CNC/CIE Annual Meeting

2002-October-05

Réjean Baribeau	National Research Council (INMS)
Arnold Gaertner	National Research Council (INMS)
John Harron†	Spectral Applied Research
Byron Jordan	PAPRICAN
James Love	University of Calgary
Sharon McFadden	DRDC Toronto
Keith Niall	DRDC Toronto
Ivan Pasini	Public Works and Government Services Canada (A&ES)
Jacques Roberge	self
Alan Robertson	National Research Council (INMS)
Nikolay Stoev	Valkom Laser Consulting
Martyn Timmings	Canlyte Inc.
Rados Topalova	ERGOLUX, New York
Jennifer Veitch	National Research Council (IRC)
Joanne Zwinkels	National Research Council (INMS)

† visitor

### Regrets

Werner Adrian	Professor Emeritus, University of Waterloo
Joe Bastianpillai	Lumentech Engineers Inc.
Yvon Deslauriers	Health Canada (RPB)
K. Frank Lin	Lighting Sciences Canada Ltd.
Guy R. Newsham	National Research Council (IRC)
Mankajee Shrestha	self
Andrew Silbiger	Andrew Silbiger Management Inc.
Ralph Smith	Ralph Smith Engineering Inc.
R.W. White	Duschenes & Fish Architects



COMMISSION INTERNATIONALE DE L'ÉCLAIRAGE  
INTERNATIONAL COMMISSION ON ILLUMINATION  
INTERNATIONALE BELEUCHTUNGSKOMMISSION

Canadian National Committee Comité National Canadien



---

## **APPENDIX B**

### **CNC/CIE 47th Annual Meeting**

2002-October-05

### **Proposed Agenda**



## CNC/CIE 47th Annual Meeting

### Proposed Agenda

DATE: 2002-October-05, Saturday

TIME: 09:30 to 17:00

LOCATION: Novotel Accor Hotel  
3 Nicholas Street, Ottawa, Ontario K1N 9M7

#### PROPOSED AGENDA:

1. Call to Order and Approval of Agenda S.M. McFadden
2. Election of reporter for lighting press
3. Minutes of the 46th Annual CNC/CIE Meeting
  - Action items
  - Matters arising?
4. President's Report S.M. McFadden
5. Secretary's Report A.A. Gaertner
6. Financial and Publications Report K.F. Lin
7. Reports from Division Members
  - Division 1: Vision and Colour S.M. McFadden
  - Division 2: Physical Measurement of Light and Radiation J.C. Zwinkels
  - Division 3: Interior Environment and Lighting Design I.C. Pasini
  - Division 4: Lighting and Signalling for Transport W. K. Adrian
  - Division 5: Exterior and Other Lighting Applications J. Roberge
  - Division 6: Photobiology and Photochemistry J.D. Yvon Deslauriers
  - Division 8: Image Technology R. Baribeau
8. Nominations and Appointments (CNC/CIE)
  - nomination committee for 2003
  - Members and Advisory Members
9. CIE 25th Session, San Diego 2003, 25 June to 02 July
  - outline of session S.M. McFadden
  - nomination of Canadian delegates
10. Other Business
  - 10.1 Correspondence S.M. McFadden
  - 10.2 Date and Place for next year's meeting
    - joint with USNC in October 2003
  - 10.3 Other business
11. Adjournment

## APPENDIX C

### Action Items from the 46<sup>th</sup> CNC/CIE Annual Meeting

2001-November-16

Minutes Item Number (46 <sup>th</sup> A.M.)	Responsible	Action
2	A.A. Gaertner	contact E. Szamosi at CSA re possible Advisory Members
		<b>- not done</b>
2	J.A. Love	check Ontario Hydro contacts re Advisory Membership
		<b>- not done</b>
3	M.K. Timmings	CNC/CIE information to the lighting press
		<b>- see Item 2 of this year's Minutes</b>
6	A.R. Robertson	account for missing CIE publications to K.F. Lin
		<b>- done, A.R. Robertson reported he had resolved this with K.F. Lin</b>
8.1	A.A. Gaertner	Membership appointments for A.A. Gaertner and R.A. Smith
8.2	A.A. Gaertner	Notify K. Loach re Advisory Membership
8.2	A.A. Gaertner	Advisory Member appointment letters to suggest service on CIE TCs
8.2	A.A. Gaertner	email any new TC info to membership
		<b>- above 4 items done, see this year's Item 5 (Secretary's report)</b>
8.2	A.A. Gaertner	poll Advisory Members for their continuing interest in CNC/CIE and CIE
		<b>- not done</b>
8.2	Division Members	send list of Canadians serving on TCs to Secretary
8.2	A.A. Gaertner	add people on above list to Advisory Membership
		<b>- partially done from Division Members' reports</b>
8.2	A.A. Gaertner	add 'Abstain' to voting ballot to encourage more responses
		<b>- done</b>
8.2	all	consider 2003 replacement for J. Roberge (Division 5)
		<b>- not done</b>
10	Pres, VP, Secr.	review CNC/CIE suggestions for invited papers and workshops
		<b>- done, see this year's Item 5 (Secretary's report)</b>
10	S.M. McFadden	write CIE-CB re lead time for Call for Papers
		<b>- done</b>
10	A.A. Gaertner	clarify with CIE-CB the procedure for submission of papers
		<b>- done</b>
11.4	Pres,VP,Sec,Treas.	develop proposed criteria for use of CNC/CIE funds by February, 2002
		<b>- not done</b>



COMMISSION INTERNATIONALE DE L'ÉCLAIRAGE  
INTERNATIONAL COMMISSION ON ILLUMINATION  
INTERNATIONALE BELEUCHTUNGSKOMMISSION

Canadian National Committee Comité National Canadien



---

**APPENDIX D**

**CNC/CIE 47th Annual Meeting**

2002-October-05

**President's Report**



COMMISSION INTERNATIONALE DE L'ÉCLAIRAGE  
INTERNATIONAL COMMISSION ON ILLUMINATION  
INTERNATIONALE BELEUCHTUNGSKOMMISSION

Canadian National Committee    Comité National Canadien



---

## PRESIDENT'S REPORT TO THE CNC/CIE 47<sup>TH</sup> ANNUAL MEETING

2002-October-05

This year we are pleased to hold our meeting in conjunction with the meetings of IEA Task 31 and CIE Division 3. I hope that many of you had the opportunity to participate in these meetings and the associated conferences.

It was good to see so many people at last year's joint meeting with the USNC. They produced a very interesting programme and as always, the meeting provided an opportunity to meet and discuss common problems with our US colleagues. They are currently busy preparing for the Quadrennial meeting next year. You are all encouraged to attend. It is definitely a worthwhile meeting with 75 oral presentations, 100 posters and six workshops planned. Workshop topics include visual appearance, lighting parameters of LEDs, the future for lighting research, solar protection, colour appearance in imaging, and lighting education. In addition the meeting provides an unparalleled opportunity to meet with your international colleagues in the field of lighting.

Once again it was my sad duty to extend condolences to our South African colleagues on the lost of one of their esteemed members, Dr. C. J. Kok. These sad events remind us that we must always be searching for new people to carry on the hard work of those that have supported the CIE for many years.

The CIE is in a period of change as it adapts to new methods of information exchange and new requirements for lighting and visual performance standards. Within our own National Committee, you will have noted an increased use of email to distribute information on the work of the CIE. The same trend can be noted within Divisions and Technical Committees as well. The great advantage is that it allows more people to actively participate in the work of the Technical Committees even if they are not able to attend meetings in person. Thus, I encourage each member to review the Division reports for Technical Committees that you could contribute to. If the topic is relevant to your work, you have a potential contribution to make.

In closing, I would like to thank all the members and associate members for their support of the work of the CIE through their participation in Technical Committees and in the operation of the CNC/CIE and by keeping Canadians in the lighting field informed about the work of the CIE. I look forward to seeing you all at the Quadrennial meeting in June in San Diego.

Respectfully submitted

A handwritten signature in cursive script that reads "Sharon McFadden".

Sharon McFadden  
President, CNC/CIE  
Defence R&D Canada - Toronto  
P.O. Box 2000, Toronto, Ontario M3M 3B9

Phone: (416) 635-2189

Fax: (416) 635-2013

email: [sharon.mcfadden@drdc-rddc.gc.ca](mailto:sharon.mcfadden@drdc-rddc.gc.ca)





COMMISSION INTERNATIONALE DE L'ÉCLAIRAGE  
INTERNATIONAL COMMISSION ON ILLUMINATION  
INTERNATIONALE BELEUCHTUNGSKOMMISSION

Canadian National Committee    Comité National Canadien



---

**APPENDIX E**

**CNC/CIE 47th Annual Meeting**

2002-October-05

**Secretary's Report**



---

## CNC/CIE SECRETARY'S REPORT TO THE 47th ANNUAL MEETING

2002-October-05

The following acronyms are used in this report:

CIE-CB:	CIE Central Bureau in Vienna, Austria
CIE-BA:	CIE Board of Administration
CNC/CIE:	Canadian National Committee of CIE
CIE/USA:	US National Committee of the CIE
GA:	General Assembly
NC:	National Committee
NRC:	National Research Council of Canada
INMS:	Institute for National Measurement Standards
IRC:	Institute for Research in Construction

This report covers the period from 2001-November-16 to 2002-October-04.

### CIE MATTERS:

#### 1. Annual Membership Fee:

The annual membership fee of the CNC/CIE as a member of the CIE for 2002 is 6,813 EUROS. This was \$9470 Cdn. The NRC International Relations Office is responsible for making this payment, and has continued to do so.

#### 2. CIE Membership of Republic of Korea:

The results of the CNC/CIE letter ballot was to approve membership of the CIE National Committee of the Republic of Korea. Fifty-four ballots were mailed to Members and Advisory Members, 26 were returned, of which one was conditional upon the committee name properly identifying South Korea rather than North Korea. The final approval, together with the concern expressed, was conveyed to the CIE-CB. This concern was noted by the CIE-CB and the NC name chosen was as given above. All NC ballots returned to the CIE-CB were in favour, which resulted in the admission of the National Committee of the Republic of Korea as CIE Member.

#### 3. CIE Associate Membership of Greece:

Greece has submitted their application for joining the CIE as Associate National Committee. The CNC/CIE vote is in progress. A CNC/CIE ballot has been sent to all CNC/CIE Members and Associate Members with a return deadline of 2002-November-04.

#### 4. 25th Session of the CIE, 2003-June-25 to July-02, San Diego, California USA:

A request for proposals for Invited Papers and Workshops for this Session was mailed to all on the CNC/CIE mailing lists. The four proposed workshops and one proposed invited paper received were reviewed by the committee set up at the last CNC/CIE annual meeting, accepted, and forwarded to the CIE-CB for submission to the CIE-BA in planning the Session. A French translation of the Session Invitation was prepared by the NRC-INMS for the CNC/CIE in response to the request of the CIE/USA. The Invitation and Provisional Registration Form were mailed to all on the CNC/CIE mailing lists. The two papers for the Session submitted by Canadians to the CIE-CB were reviewed and recommended to the CIE-CB for acceptance as Presented Papers. The two papers have been accepted by the CIE-BA. They are:

- i.) *Illuminant Choice for the Colorimetry of Fluorescent White Papers*, B. Jordan, and
- ii.) *New Efficient Tubular Daylighting System for Multi-Floor Buildings*, L.A. Whitehead et al.

## 5. CIE Draft Standards:

- 5.1 CIE DS 009.2/E:2001 *Photobiological Safety of Lamps and Lamp Systems*. The final version of this CIE Draft Standard was sent to the NCs for voting. Fourteen copies were mailed to CNC/CIE Members and potentially interested parties. Five were returned: 4 in favour and 1 abstention. The CNC/CIE approval of the publication of this document was forwarded to the CIE-CB. The results for the international voting were all nine returned ballots were in favour, which resulted in the approval of publishing this draft standard as standard CIE S009/E:2002.
- 5.2 CIE DS 010.2/E:2001 *Photometry–The CIE System of Physical Photometry*. This CIE Draft Standard has passed the CIE-BA and Divisional ballots. It was sent to the NCs for comments. Thirteen copies were mailed to CNC/CIE Members, and CNC/CIE Advisory Members were notified. Five replies were received and the comments were forwarded to the CIE-CB.
- 5.3 CIE DS 011.2/E:2002 *Spatial Distribution of Daylight–CIE Standard General Sky*. This CIE Draft Standard has passed the CIE-BA and Divisional ballots. It was sent to the NCs for comments. Copies were mailed to thirteen CNC/CIE Members. Three replies were received and the comments were forwarded to the CIE-CB.
- 5.4 CIE DS 012.2/E:2002 *Standard Method of Assessing the Spectral Quality of Daylight Simulators for Visual Appraisal and Measurement of Colour*. This CIE Draft Standard has passed the CIE-BA and Divisional ballots. It was sent to the NCs for comments. All CNC/CIE Members, Advisory Members, and ‘general interest’ parties have been notified that copies of these documents can be made available for their comments.
- 5.5 CIE DS 013.2/E:2002 *International Standard Global UV Index*. This CIE Draft Standard has passed the CIE-BA and Divisional ballots. It was sent to the NCs for comments. All CNC/CIE Members, Advisory Members, and ‘general interest’ parties have been notified that copies of these documents can be made available for their comments.

## 6. International Lighting Vocabulary:

The CIE is working on a revision of the International Lighting Vocabulary (ILV). Division 1 is responsible for sections 02 (Vision, Colour Rendering) and 03 (Colorimetry) and has prepared a revision of these sections. These revisions have been approved by Division 1 Members and by the CIE-BA and were submitted to the NCs for comments. The revised sections were mailed to all (54) CNC/CIE Members and Advisory Members for comments. The comments received (four respondents) by the deadline of 2002-September-20 were forwarded to the CIE-CB.

## 7. Mailings:

Amongst others, the following CIE materials have been received and mailed to the membership as appropriate:

*CIE NEWS* #60, December 2001

*CIE NEWS* #61, March 2002

*CIE NEWS* #62, June 2002

CIE Press Releases:

Publication CIE 145:2002: *The Correlation of Models for Vision and Visual Performance*.

Publication: CIE *Collection on Glare 2002*:

CIE 146:2002: *CIE Equations for Disability Glare*.

CIE 147:2002: *Glare from Small, Large and Complex Sources*.

Publication CIE 148:2002: *Action Spectroscopy of Skin with Tunable Lasers*.

Publication CIE x023:2002: *Proceedings of two CIE Workshops on Photometric Measurement Systems for Road Lighting Installations*.

CIE Draft Standard DS 011.2/E:2002 *Spatial Distribution of Daylight–CIE Standard General Sky*..

CIE Draft Standard DS 012.2/E:2002 *Standard Method of Assessing the Spectral Quality of Daylight Simulators for Visual Appraisal and Measurement of Colour*.

CIE Draft Standard DS 013.2/E:2002 *International Standard Global UV Index*.

CIE Standard S009/E:2002: *Photobiological Safety of Lamps and Lamp Systems*.

## CNC/CIE MATTERS:

### 1. CNC/CIE 2002 Annual Meeting:

This meeting has been held in conjunction with the CIE Division 3 meeting and the IEA Task 31 meeting held in Ottawa at the same location. We thank Dr. Guy Newsham of NRC-IRC and his assistants for setting up the arrangements for our meeting.

## 2. CNC/CIE Affiliations:

Our membership in the CIE and NRC's maintenance of this membership puts us in contact with many other scientific organisations in whose activities we may participate. One of these is the CNC for CODATA which is responsible to be the focal point for matters related to the collection, management, manipulation, access to and exploitation of quantitative data in science and technology. They have invited our participation and I have emailed the CNC/CIE this information, although no one has responded.

## 3. Mailing Lists:

3.1 At present I maintain 3 mailing lists: Members(13), Advisory Members(40), General Interest(27). In general, the difference between the first two and the third is that the third list tends to receive only CIE material (press releases of CIE publications, CIE NEWS ) and notices of international conferences. Members and Advisory Members receive more CNC information such as various ballots, and the Minutes of the annual meeting and related information.

3.2 Electronic Mail: I have sent more documents to the CNC/CIE membership this year by email, such as the Division Members' reports which were sent out just prior to this annual meeting. I have been using a PDF format which should be more versatile in accommodating the various computer systems, and the reader can be downloaded free from the Adobe website. I can now receive more information from the CIE-CB, such as Press Releases, in electronic format. I often receive announcements of meetings in electronic format, and I will forward these electronically rather than sending a large paper mailing. At present my email mailing lists are: Members(13), Advisory Members(28), General Interest(6). Please keep me updated on your email address.

## 4. Membership:

A list of our Members and Advisory Members is available and will be discussed during the annual meeting for the purposes of making any changes.

### 4.1. Members:

At last year's annual meeting two Member appointments were recommended by the CNC/CIE. Letters of appointment were sent to these people by Dr. Janusz Lusztyk, Director-General of INMS. Both have accepted. They are:

Arnold A. Gaertner as Secretary of the CNC/CIE  
Ralph A. Smith

### 4.2. Advisory Members:

As a result of the actions taken at our last annual meeting, the following has been added to our Advisory Membership:

Mr. Ken Loach of H.H. Angus & Associates

The following have been removed from our Advisory Membership:

R.B. Gibbons (moved)  
Roy Kaufmann (requested removal)  
Dr. Brian Liddy (retired from 'corresponding' member)  
Dr. D.K. Tiller (moved to USA)

Dr. Walter T. Delpero of the University of Ottawa Department of Ophthalmology has indicated his interest in Advisory Membership.

Respectfully submitted,

A.A. Gaertner  
Secretary, CNC/CIE  
Institute for National Measurement Standards  
Building M-36  
National Research Council of Canada  
Ottawa, Ontario K1A 0R6  
Tel: (613) 993-9344  
Fax: (613) 952-1394  
Email: arnold.gaertner@nrc.ca



COMMISSION INTERNATIONALE DE L'ÉCLAIRAGE  
INTERNATIONAL COMMISSION ON ILLUMINATION  
INTERNATIONALE BELEUCHTUNGSKOMMISSION

Canadian National Committee Comité National Canadien



---

## **APPENDIX F**

### **CNC/CIE 47th Annual Meeting**

2002-October-05

### **Financial and Publications Report**

**From:** K. Frank Lin [kflsc@ionline.net]  
**Sent:** 2002-Oct-01 11:07  
**To:** Robertson, Alan  
**Cc:** Gaertner, Arnold (INMS) (SMTP); Zwinkels, Joanne  
**Subject:** RE: CIE Publications - NRC purchases  
**Attachments:** CIE PUBLICATIONS STOCK LIST-30SEP2002.xls;  
CIE FINANCIAL REPORT FOR 30-SEPTEMBER-2002.xls;  
CIE INCOME STATEMENT & BALANCE SHEET AS OF 30SEPTEMBER2002.xls;  
CIE PUBLICATION PURCHASE{30NOV2001-30SEP2002}.xls;  
CIE PUBLICATION SALE FOR NOV 2001-SEP 2002.xls;  
CIE-CANADA BANK ACCOUNT{AS OF 30 SEP 2002}.xls

Dear Alan:

Thank you very much for the information.

Since I have completed CIE Publication Financial Report as of September 30, 2002. I will incorporate those transactions at the next report.

I regret that I won't be able to attend October 5th annual meeting. Arnold, will you please review the attached files (all in excel format) of CIE publication financial report and distribute to the committee. If you need the report to be couriered to you, please let me know. Thank you for your assistance.

There are two parts of the reports:

Part I: CIE PUBLICATION STOCK LIST (4 pages)

"CIE PUBLICATIONS STOCK LIST-30SEP2002.xls"

Note: Current stock column is the stock in my possession.

Part II: CIE PUBLICATION-CANADA FINANCIAL REPORT AS OF SEPTEMBER 30,2002

(6 pages plus title page)

Title page "CIE FINANCIAL REPORT FOR 30-SEPTEMBER-2002.xls"

Page 1&2 "CIE INCOME STATEMENT & BALANCE SHEET AS OF 30SEPTEMBER2002.xls"

Page 3 "CIE-CANADA BANK ACCOUNT{AS OF 30SEP2002}.xls"

Page 4&5 "CIE PUBLICATION SALE FOR NOV2001-SEP2002.xls"

Page 6 "CIE PUBLICATION PURCHASE {30NOV2001-30SEP2002}.xls"

Thank you,  
Frank

---

Canadian National Committee of CIE  
c/o Dr. K. Frank Lin  
440 Phillip Street, Unit 19  
Waterloo, Ontario, Canada N2L 5R9

Tel: (519)746-3140

Fax: (519)746-3156

Email: kflsc@ionline.net

---

## CIE PUBLICATION STOCK LIST

Stock List: 2002-09-30

CIE No.	Title	Year	Price	Price	Sales					Purchase			Current Stock	Note Page#
			Code	Cd\$	97-98	98-99	99-00	2001	2002	99-00	2001	2002		
1	Urban sky glow	1980	C	48									4	24
2.2	Colours of light signals	1975	I	79		1							2	85
8	Street lighting & accidents	1960											5	27
12.2	Road lighting for motor, traffic	1977											4	51
13.3	Colour rendering properties	1995	I	79		1		1					0	16
15.2	Colorimetry	1986	H	70	1	3	1	3			1		0	77
16	Daylight	1970	I	79									5	79
17.4	International lighting vocabulary	1987	X	602				1					0	365
18.2	Physical photometry	1983	E	57	1	1							1	37
19/2.1	Visual performance - volume I	1981	K	99									4	124
19/2.2	Visual performance - volume II	1981	I	79					1				3	76
20	Solar radiation	1972											5	54
22	Luminance distrib. on clear sky	1973											4	30
23	Motorway lighting	1972	C	48									5	53
24	Luminaire photometry (indoor)	1973											2	64
26	Recommendation for tunnel Itg	1973	I	79									5	80
27	Luminaire photometry(street Itg)	1973											4	71
28	Sports Itg for colour tv broadcast	1975											4	29
29.2	Guide on inteior lighting	1986	J	88									1	113
30.2	Calc. & Meas. (road lighting)	1982	L	119	1	1			1				0	159
31	Glare & uniformity (road lighting)	1976	C	48									0	
32A	Special road lighting (French)	1977	D	53									4	36
32B	Special road lighting (English)	1977	D	53									5	22
33A	Deprec.&install.road Itg (French)	1977	C	48									4	32
33B	Deprec.&install.road Itg(English)	1977	C	48									5	24
34	Road lighting installation data	1977	E	57									3	39
35	Lighting of traffic signs	1978											1	23
37	Exterior lighting in the environ.	1976											5	62
38	Characteristics of materials	1977	L	119									4	214
39.2	Surf.colours for visual signals	1983	I	79	1								3	69
40	Interior lighting calculations	1978	G	66									4	60
41	Light as true visual quantity	1978	E	57									4	40
42	Lighting for tennis	1978	C	48									6	23
43	Photometry of floodlights	1979	F	62									4	50
44	Absolute reflection measurements	1979	H	70									2	55
45	Lighting for ice sports	1979	C	48									5	23
46	Material reflection stanadards	1979	J	88									4	99
47	Road lighting for wet condition	1979	I	79									4	94
48	Road traffic signals	1980	E	57				1					0	
49	Emergency lighting	1981	B	42									3	9
51	Daylight simulators for colorim.	1981	D	53									1	26
51.2	Qual.of daylight simu.for colorimetry	1999	D	53						2			2	36
52	Interior lighting calculations	1982	L	119									4	164
53	Radiometers & photometers	1982	D	53	1	1	1	1			1		0	
54	Retroreflection - def./meas.	1982	D	53		1							1	28
54.2	Retroreflection:Defi & Measure.	2001	G	66					1		2		1	54
55	Discomfort glare (interior)	1983	F	62									3	43

CIE No.	Title	Year	Price	Price	Sales					Purchase			Current	Note
			Code	Cd\$	97-98	98-99	99-00	2001	2002	99-00	2001	2002	Stock	Page#
56	Proceedings 1983	1983	L	119									5	
57	Lighting for football	1983	B	42									4	9
58	Lighting for sports hall	1983	A	31									4	4
59	Polarization	1984	D	53									4	25
60	Vision/visual display work station	1984	D	53									1	29
61	Tunnel entrance lighting	1984	I	79			1						2	72
62	Lighting for swimming pools	1984	C	48				1					1	16
63	Spectroradiometry	1984	G	66		1	1	1			1		0	
64	Spectral responsivity of detect.	1984	H	70		1							2	66
65	Absolute radiometers	1985	D	53									3	31
66	Road surfaces & lighting	1984	H	70									2	70
67	Photometry of sports lighting	1986	A	31									2	13
68	Lighting of exterior working area	1986	H	70									4	77
69	Illuminance meters	1987	E	57	1		1						0	
70	Meas. of luminous intensity	1987	F	62									2	44
71	Processings 1987-Volume I	1987											1	396
71	Processings 1987-Volume II	1987											1	151
72	Retroreflectors at night	1987	G	66									2	50
73	Visual aspect of road markings	1988	G	66									1	53
74	Road signs	1988	K	99									3	134
75	Spectral luminous efficiency	1988	C	48									2	20
76	Meas. of luminescent specimens	1988	H	70									2	68
77	Electric light sources	1988	K	99									0	
78	Brightness-luminance relations	1988	M	141									2	173
79	Road traffic lights	1988	C	48				1					0	
80	Observer metamerism	1989	C	48									2	17
81	Mesopic photometry	1989	D	53									3	27
82	CIE history (1913-1988)	1990	M	141									1	77
83	Lighting of sports for tv&film sys.	1989	C	48									1	14
84	Meas. of luminous flux	1989	F	62		1	1			1			0	
85	Solar spectral irradiance	1989	F	62									0	
86	1988 2 deg.spec.lum.eff.function	1990	B	42									2	11
87	Self-luminous displays	1990	E	57									0	
88	Lighting for road tunnels&underpas.	1990	F	62	1				1				0	42
89	Technical collection 1990	1991	F	62									2	51
90	Sunscreen testing (UV B)	1991	B	42									2	11
91	Proceedings 1991-Volume I, P1	1991											2	131
91	Proceedings 1991-Volume I, P2	1991											2	166
91	Proceedings 1991-Volume II	1991											2	205
92	Guide for lighting of urban areas	1992	D	53				1					0	38
93	Road lighting/accident counter meas	1992	J	88	1								3	117
94	Guide for floodlighting	1993	H	70									1	63
95	Contrast & visibility	1992	F	62					1				0	52
96	Electric light sources	1992	C	48									0	
97	Maintenance/indoor lgt systems	1992	C	48									2	24
98	Personal dosimetry of uv radiat.	1992	C	48									1	17
99	Lighting education (1983-1989)	1992	B	42									1	21
100	Visual task of night driving	1992	G	66									2	60
101	Parametric effects/colour differ.	1993	B	42									0	
102	File format-photometric data	1993	C	48									1	23
103	CIE technical collection 1993	1993	G	66									0	
104	Daytime running lights (DRL)	1993	B	42									1	14
105	Spectroradiometry-optical radia.	1993	C	48	1	1							1	20
106	Collection/Photobio.& Phtochem.	1993	F	62									1	52
107	Colours of signal lights	1994	E	57									1	38
108	Daylight measurement	1994	F	62									1	49



CIE No.	Title	Year	Price	Price	Sales					Purchase			Current	Note
			Code	Cd\$	97-98	98-99	99-00	2001	2002	99-00	2001	2002	Stock	Page#
109	Corresponding colours	1994	B	42									1	14
110	Spatial distribution of daylight	1994	D	53	1								0	
111	Variable message signs	1994	F	62					1				1	56
112	Glare evaluation system-outdoor	1994	B	42		1							1	9
113	Retroreflective road signs(night	1995	G	66									1	56
114	Collection-photometry&radiometry	1994	E	57									2	42
115	Lighting of roads for motor ped.	1995	C	48		1							1	20
116	Colour difference evaluation	1995	B	42			1						1	17
117	Discomfort glare in interior lighting	1995	D	53	1								1	35
118	Collection-colour & vision	1995	G	66									2	64
119	Proceeding of New Delhi Vol.1	1995	X	136									0	
120	Proceeding of New Delhi Vol.2	1996	K	99									0	
121	Goniophotometry of luminaires	1996	F	62		1			1				0	43
122	Digital&colorimetric data for CRT	1996	C	48									1	26
123	Low Vision	1997	L	119									2	157
123CD	Low Vision: CD-ROM	1997	CD	59	1								0	
124	Collection-colour & vision	1997	E	57									2	43
125	Standard erythema dose	1997	A	31									1	5
126	Minimizing sky glow	1997	B	42									2	18
127	Measurement of LEDs	1997	C	48	1	2		1	1			2	1	21
128	Lighting of open cast mines	1998	C	48									2	22
129	Lighting exterior work areas	1998	B	42				1					1	20
130	Measurement of refl.& trans.	1998	G	66				1					1	63
131	CIECAM97s colour appearance	1998	B	42									1	14
132	Design methods for lgt of roads	1999	F	62									2	52
133	Proc.24th Ses.CIE,Warsaw	1999	X	239									0	
133CD	Proc.24th Ses.CIE,Warsaw	1999	CD	81									0	
134	Collection in Photobi&Photochem.	1999	F	62				1					1	53
135	Vision and colour	1999	H	70						2			2	80
136	Guide to the lgt of urban areas	2000	D	53				1	1	2		1	1	36
137	Conspicuity of traffic sign	2000	D	53						2			2	41
138	Col. in photobiology & photochem.	2000	F	62				1		2			1	54
139	Diurnal&seas. var.in humans	2001	G	66									0	
140	Road lighting calculations	2000	D	53				1		2			1	32
141	Test of suppl.systems of photo.	2001	I	79							2		2	83
142	Impr.to ind.color-diff. evaluation	2001	B	42				1			2		1	14
143	Colour vision req.for transport	2001	E	57				1	1		2		0	44
144	Road surf. & marking refl.character.	2001	D	53							2		2	34
145	Cor.for vision&visual perform.	2002	E	57					2			2	0	34
146/7	CIE collection on glare 2002	2002	C	48					1			2	1	29
	146-CIE equations for disab.glare													
	147-glare from small....sources													
148	Action spect.of skin /w...lasers	2002	B	42								2	2	13
	<b>CIE Discs:</b>													
D001	Phot. & colorimetric data	1988	C	48	1			1		1			0	
D002	Colorimetric&colour rend. data	1991	J	88									0	
D003	CIE Roster		-										0	
D004	CIE Publications	1993	J	88									0	
D005	Daylight simulators	1994	A	31									0	
D006	Daylight AQC	1994	-										0	
D007	Corresponding colours	1994	F	62									0	
D008	Colour rendering index	1995	X	37				2			2		1	e-mailed

CIE No.	Title	Year	Price	Price	Sales					Purchase			Current	Note
			Code	Cd\$	97-98	98-99	99-00	2001	2002	99-00	2001	2002	Stock	
<b>Standards and Draft Standards:</b>														
ISO10526	Standard illuminants	1991	B	42			1						1	9
ISO10527	Colorimetric observers	1991	G	66			1						2	25
S003	Spatial distribution of daylight	1996	A	31	1								0	
S004	Colours of light signals	2001	B	42									0	
S005	Illuminants for colorim	1998	B	42									2	12
S006	Road traffic light	1998	A	31	1								1	5
S007	Erythema action spect.	1999	A	31			1						0	
S008	Lighting of Indoor Work Places	2001	C	48				3			3		0	
S009	Photobio.safety of lamp&system	2002	D	53									0	
DS004.2	Signal colours	1996	X										0	
DS007.4	Erythema action spectrum	1998	X		1								0	
DS008.2	Ltg. of indoor work places	2000	X										0	
DS009.1	Photobiological safety of lamps	2000	X										0	
DS010.2	CIE Sys.of Physical Photometry	2001	X	22				2			2		0	
DS011.2/E	CIE Standard General Sky	2002	X	22									0	
DS012.2/E	Spectral quality of daylight simu.	2002	X	22									0	
DS013.2	Int'l Standard Global UV Index	2002	X	22									0	
<b>Special Publications:</b>														
X001	SLG-Div.5 Symposium	1989	B	42									0	
X002	SLG-Div.4 Symposium	1989	-										0	
X003	Daylight & solar radiation meas..	1989	J	88									1	
X004	Symp.Light & Radiation	1981	A	31		1							0	
X005	Proc.Seminar Computer program	1992	J	88									0	
X006	Japan CIE/PRAKASH91	1991	B	42									0	
X007	Proc. Symposium Colorimetry	1993	X	90	1								1	117
X008	Urban Sky Glow	1994	E	57									1	41
X009	Proc.Symposium Photometry	1995	L	119									2	205
X010	Proc.Symposium Image Tech.	1996	L	119									0	
X011	Proc. 95 late papres	1996	F	62									0	
X012	Proc.NPL-UK Conf.-Visual Scale	1997	I	79									0	
X013	Proc. LED Symp. '97	1997	I	79	1	1		1			1		0	
X014	Proc.Symposium'97-Colour std.	1997	K	99									0	
X015	Proc. Symp. Lighting Quality	1998	H	70									0	
X016	Meas.of optical radiation haz.	1998	X	70									0	
X017	Special 24th CIE, Warsaw 1999	2000	G	66									0	
X018	Proc.of CIE Sym.'99-75 yrs.	1999	L	119									0	
X018CD	Proc.of CIE Sym.'99-75 yrs.	1999	CD	59									0	
X019	Proc.of 3 Workshops-Road Ltg.	2001	J	88									0	
X020	Proc.of CIE Symp. 2001	2001	I	79				1			1		0	
X021	Proc.of CIE Symp. 2000	2001	I	79									0	
X022	Proc. of 2nd Symp. on LED	2001	J	88				2			2		0	
X023	Proc.of two CIE Workshops	2002	J	88									0	
X024	Proc.ofCIE/ARUPSym.on Visual	2002	L	119									0	
X024CD	Proc.ofCIE/ARUPSym.on Visual	2002	CD	66									0	
AIC1AB	AIC Proc. 93 A+B	1993											0	
AIC1AC	AIC Proc. 93 A+C	1993											0	
AIC1ABC	AIC Proc. 93 A+B+C	1993											0	
	<b>Total</b>				<b>19</b>	<b>20</b>	<b>14</b>	<b>28</b>	<b>13</b>	<b>14</b>	<b>24</b>	<b>9</b>	<b>280</b>	

**CIE PUBLICATION - CANADA  
FINANCIAL REPORT  
AS OF  
SEPTEMBER 30, 2002**

<b>Income Statement</b>	<b>Page 1</b>
<b>Balance Sheet</b>	<b>Page 2</b>
<b>Bank Account Balance</b>	<b>Page 3</b>
<b>Publication Sale: November 2001 - September 2002</b>	<b>Page 4-5</b>
<b>Publication Purchase from Central Bureau: October 26, 2001 - September 30, 2002</b>	<b>Page 6</b>

**CIE PUBLICATION - CANADA  
FINANCIAL REPORT**

**INCOME STATEMENT    Nov/01/2001 - Sep/30/2002**

**Revenue**

Publication sale [year 2001-2002]	\$ 2,922.00
Publication sale [Accounts Receivable: year 2001/2002]	<u>\$ 162.00</u>

**Total Revenue**

**\$ 3,084.00**

**Expense**

Payment to Lighting Sciences Canada Ltd. [ck#13 for courier]	\$ 253.22
Publication payment to CB [ck#14 for year 2001: Euro\$416.00]	\$ 628.25
Reimburse Dr. Werner Adrian [ck#15]	\$ 3,019.39
Publication purchase [year 2001/2002: Euro\$625.95]	\$ 983.70
Bank charges [year Oct/2001 - Aug/2002: 11 months @\$3.95]	\$ 43.45
A/P - due to Lighting Sciences Canada Ltd. [courier & mailing]	<u>\$ 58.17</u>

**Total Expense**

**\$ 4,986.18**

**Net Income (Loss)**

**\$ (1,902.18)**

**CIE PUBLICATION - CANADA  
FINANCIAL REPORT**

**BALANCE SHEET**      **Nov/01/2001 - Sep/30/2002**

**Assets**

Bank/Cash	\$ 11,315.19
Accounts Receivable - Coutts Library Services Ltd. [inv.#2034]	\$ 114.00
Accounts Receivable - MacInnis Engineering [inv.#2036]	<u>\$ 48.00</u>

**Total Assets** **\$ 11,477.19**

**Liabilities**

Accounts Payable-Lighting Sciences Canada [courier & mailing]	<u>\$ 58.17</u>
---	-----------------

**Total Liabilities** **\$ 58.17**

**Equity**

Balance, beginning @October 17, 2001	\$ 13,321.20
Current Income	<u>\$ (1,902.18)</u>

**Total Equity** **\$ 11,419.02**

**Liability & Equity** **\$ 11,477.19**



## CIE PUBLICATION SALE - CANADA

CIE Publication Sale: November 1, 2001 - September 30, 2002					
Date/Inv. #	Description/Title of Publication	Qty	Sale	Expense	Net Amount
Nov/16/2001 <b>#2021</b>	<b>CSTPQ</b> CIE-DS 010.2-2001: CIE Sys. Of Physical Photometry CIE-X022-2001: Proc. of 2nd Symp. on LED Shipping cost - N/A (directly shipped from Central Bureau of CIE)	1 1	\$ 218.00	\$ -	\$ 218.00
Nov/19/2001 <b>#2022</b>	<b>Pulp &amp; Paper Research Institute of Canada</b> CIE-142-2001:Improvement to Industrial Colour-Difference Evaluation Shipping cost - Purolator	1	\$ 106.00	\$ 13.62	\$ 92.38
Nov/20/2001 <b>#2023</b>	<b>Pulp &amp; Paper Research Institute of Canada</b> CIE-X020-2001: Proc. of CIE Symp. 2001 Shipping cost - N/A (directly shipped from Central Bureau of CIE)	1	\$ 156.00	\$ -	\$ 156.00
Nov/23/2001 <b>#2024</b>	<b>Carmanah Technologies Inc.</b> CIE-DS 010.2/E-2001: CIE Sys. of Physical Photometry Shipping cost - N/A (directly shipped from Central Bureau of CIE)	1	\$ 44.00	\$ -	\$ 44.00
Dec/12/2001 <b>#2025</b>	<b>TIR Systems Ltd.</b> CIE-13.3-1995: Meas.& Specify.Colour Rendering Properties CIE-15.2-1986: Colorimetry, Second Edition CIE-63-1984: Spectroradiometry CIE-127-1997: Measurement of LEDs CIE-X013-1997: Proc.LED Symp. '97 CIE-X022-2001: Proc. Of 2nd Symp. On LED Shipping cost - Purolator	1 1 1 1 1 1	\$ 873.00	\$ 13.62	\$ 859.38
Dec/17/2001 <b>#2026</b>	<b>Advanced Glazing Ltd.</b> CIE-S008-2001: Lighting of Indoor Work Places Shipping cost - N/A (directly shipped from Central Bureau of CIE)	1	\$ 94.00	\$ -	\$ 94.00
Jan/11/2002 <b>#2027</b>	<b>Transport Canada, Civil Aviation Medicine</b> CIE-143-2001: Int'l Recom.for Colour Vision Req. for Transport Shipping cost - Purolator	1	\$ 139.00	\$ 12.31	\$ 126.69
Jan/31/2002 <b>#2028</b>	<b>Min.des Transports Direction de L'ile-de-Montreal</b> CIE-111-1994: Technical Report - Variable Message Signs Shipping cost - Regular mail	1	\$ 123.00	\$ -	\$ 123.00
Feb/15/2002 <b>#2029</b>	<b>3M Canada Company</b> CIE-54.2-2001: Retroreflection: Definition and Measurement Shipping cost - Regular mail	1	\$ 130.00	\$ 2.10	\$ 127.90
Mar/15/2002 <b>#2030</b>	<b>Mark IV Industries Ltd.</b> CIE-127-1977: Measurement of LED's Shipping cost - Regular mail	1	\$ 94.00	\$ -	\$ 94.00
Mar/27/2002 <b>#2031</b>	<b>EPCOR Technologies</b> CIE-136-2000: Guide to the Lighting of Urban Areas Shipping cost - Regular mail	1	\$ 105.00	\$ -	\$ 105.00
June/20/2002 <b>#2032</b>	<b>MacInnis Engineering Associates</b> CIE-95-1992: Contrast & Visibility CIE-145-2002: Correlation of Model for Vision & Visual Performance CIE-19/2.2: Anylytic Model for the Influence of Lighting Paramters... Shipping cost - Fedex (collect)	1 1 1	\$ 393.00	\$ -	\$ 393.00
June/30/2002	<b>Balance carried forward</b>		<b>\$ 2,475.00</b>	<b>\$ 41.65</b>	<b>\$ 2,433.35</b>

## CIE PUBLICATION SALE - CANADA

CIE Publication Sale: November 1, 2001 - September 30, 2002					
Date/Inv. #	Description/Title of Publication	Qty	Sale	Expense	Net Amount
June/30/2002	<b>Balance brought forward</b>		\$ 2,475.00	\$ 41.65	\$ 2,433.35
July/11/2002 <b>#2033</b>	<b>F.C. O'Neill, Scriven and Associates Ltd.</b> CIE-30.2-1982: Calc.&Measure.of Luminance & Illuminance in Road Ltg Shipping cost - Purolator	1	\$ 262.00	\$ 14.42	\$ 247.58
Aug/12/2002 <b>#2034</b>	<b>Coutts Library Services Ltd.</b> CIE-145:2002: The Correlation of Models for Vision & Visual Perform. Shipping cost - Regular mail	1	\$ 114.00	\$ -	\$ 114.00
Aug/19/2002 <b>#2035</b>	<b>Trojan Technologies Inc.</b> CIE-121-1996: The Photometry and Goniophotometry of Luminaires Shipping cost - Regular mail	1	\$ 123.00	\$ -	\$ 123.00
Sep/19/2002 <b>#2036</b>	<b>MacInnis Engineering Associates</b> CIE-146-2002 & 147-2002: CIE Collection on Glare 2002 Shipping cost - N/C: Fedex (collect)	1	\$ 48.00	\$ -	\$ 48.00
Sep/20/2002 <b>#2037</b>	<b>Andrew Silbiger Management Inc.</b> CIE-88-1990: Guide for the Lighting of Road Tunnels & Underpasses Shipping cost - Regular mail	1	\$ 62.00	\$ 2.10	\$ 59.90
Sep/30/2002	<b>Total Sale (November 1, 2001 - September 30, 2002)</b>		<b>\$ 3,084.00</b>	<b>\$ 58.17</b>	<b>\$ 3,025.83</b>



**CIE PUBLICATION PURCHASE - CANADA**  
**Financial Report - Purchase**

<b>Publication purchases from CB, 2001-2002 (CANADA)</b>									
<b>Date</b>	<b>CIE Inv.</b>	<b>CIE Code</b>	<b>Title of Publication</b>	<b>Qty</b>	<b>Unit Cost</b>	<b>Total Cost</b>	<b>Discount</b>	<b>Running Total</b>	<b>Payments</b>
					<b>(Euro)</b>	<b>(Euro)</b>	<b>(Euro)</b>	<b>(Euro)</b>	<b>(Euro)</b>
2001.10.31	Forward							\$ 416.00	
2001.11.26	Payment								\$ 416.00
	Balance				\$ -	\$ -	\$ -	\$ -	\$ -
2001.10.26	343/NC	144	Road surface&road marking reflection char.	2	\$ 48.00	\$ 96.00	(\$33.60)	\$ 62.40	
2001.11.21	393/NC	DS010	Photometry-CIE system of physical photome.	1	\$ 20.00	\$ 20.00	(\$7.00)	\$ 13.00	
	"	x022	CIE symposium 2001 "LED Measurement"	1	\$ 79.00	\$ 79.00	(\$27.65)	\$ 51.35	
2001.11.21	394/NC	x020	CIE symposium 2001"Uncertainty Evaluation"	1	\$ 71.00	\$ 71.00	(\$24.85)	\$ 46.15	
2001.11.27	402/NC	DS010	Photometry-CIE system of physical photome.	1	\$ 20.00	\$ 20.00	(\$7.00)	\$ 13.00	
2001.12.14	423/NC	15.2	Colorimetry	1	\$ 63.00	\$ 63.00	(\$22.05)	\$ 40.95	
	"	63	Spectroradiometry of light sources	1	\$ 59.00	\$ 59.00	(\$20.65)	\$ 38.35	
	"	x013	Proceedings of the CIE LED Symposium '97	1	\$ 71.00	\$ 71.00	(\$24.85)	\$ 46.15	
	"	x022	CIE symposium 2001 "LED Measurement"	1	\$ 79.00	\$ 79.00	(\$27.65)	\$ 51.35	
2001.12.19	427/NC	S008	Lighting of indoor work places	1	\$ 43.00	\$ 43.00	(\$15.05)	\$ 27.95	
2002.03.15	088/NC	145	Correl.of mode. for vision & visual perform.	2	\$ 52.00	\$ 104.00	(\$36.40)	\$ 67.60	
2002.03.21	106/NC	127	Measurement of LEDs	2	\$ 43.00	\$ 86.00	(\$30.10)	\$ 55.90	
2002.04.03	116/NC	136	Guide to the lighting of urban areas	1	\$ 48.00	\$ 48.00	(\$16.80)	\$ 31.20	
2002.05.23	163/NC	146/7	CIE collection on glare 2002	2	\$ 43.00	\$ 86.00	(\$30.10)	\$ 55.90	
2002.07.01	217/NC	148	Action spectro.of skin with tunable lasers	2	\$ 19.00	\$ 38.00	(\$13.30)	\$ 24.70	
			<b>Total to date as of 2002.07.11</b>			<b>\$ 963.00</b>	<b>\$ (337.05)</b>	<b>\$ 625.95</b>	
			<b>Payment to CB @ 2002.07.11</b>						<b>\$ 625.95</b>
			<b>Balance due as of 2002.07.11</b>					<b>\$ -</b>	<b>(Euro)</b>



COMMISSION INTERNATIONALE DE L'ÉCLAIRAGE  
INTERNATIONAL COMMISSION ON ILLUMINATION  
INTERNATIONALE BELEUCHTUNGSKOMMISSION

Canadian National Committee Comité National Canadien



---

**APPENDIX G**

**CNC/CIE 47th Annual Meeting**

2002-October-05

**CNC/CIE Policy for the Reimbursement of Expenses**

**First Draft**

## **APPENDIX G**

### **CNC/CIE Policy for Reimbursement of Expenses**

Draft 1 (2002-October-06)

J.A. Veitch and J.C. Zwinkels

The CNC/CIE does not, in general, provide financial support for member's travel to CIE events. The NRC International Relations Office provides limited funding to the Canadian representative to CIE business meetings. In rare specified instances, the CNC/CIE will consider advance requests for funding assistance from the official Canadian representative to such meetings. If such assistance is granted, it is subject to the following:

1. The maximum possible reimbursement would be the actual cost of the travel as established by the federal Government Travel Guidelines, less
  - i.) any funding received from NRC International Affairs Office,
  - ii.) any funding received from any other agency or company,and subject to the maximum reimbursement ("CAP") set by the CNC/CIE when the request is considered.
2. The request must be submitted in advance of the trip, with a budget. The CNC/CIE will review the budget and set an upper limit to the funding provided by the CNC/CIE.
3. After the trip, the request for reimbursement, with detailed expenses (as per Federal Government Travel Directive forms) will be submitted to the CNC/CIE Executive for review against the commitment previously made. If the request is deemed consistent with the commitment, it will be forwarded to the CNC/CIE Financial Officer for payment.



COMMISSION INTERNATIONALE DE L'ÉCLAIRAGE  
INTERNATIONAL COMMISSION ON ILLUMINATION  
INTERNATIONALE BELEUCHTUNGSKOMMISSION

Canadian National Committee Comité National Canadien



---

## **APPENDIX H**

### **CNC/CIE 47th Annual Meeting**

2002-October-05

### **CNC/CIE Members and Advisory Members**



### CNC/CIE MEMBERS

<u>CNC/CIE</u>			<u>TERM (expiry)</u>	<u>CIE</u>
President	S.M. McFadden	Ontario	2003-12-31	Division 1
Vice President	W.K. Adrian	Ontario	2002-12-31	Division 4
Secretary/Treasurer	A.A. Gaertner	Ontario	2005-12-31	
Publications	K.F. Lin	Ontario	2004-12-31	
	R. Baribeau	Ontario	2002-12-31	Division 8
	J.A. Love	Alberta	2002-12-31	
	I.C. Pasini	Ontario	2002-12-31	Division 3
	J.D. Yvon Deslauriers	Ontario	2003-12-31	Division 6
	J.B. Roberge	Québec	2003-12-31	Division 5, Finance Com.
	Ralph A. Smith	New Brunswick	2005-12-31	
	Lorne A. Whitehead	British Columbia	2004-12-31	
	J.C. Zwinkels	Ontario	2002-12-31	Division 2
<i>ex officio</i>	A.R. Robertson	Ontario		NRC/INMS Member

### CNC/CIE ADVISORY MEMBERS

Eduard Alf	Ontario	J. Bruce McArthur	Ontario
Ian Ashdown	British Columbia	Donald B. McIntyre	Ontario
M.G. Bassett	Ontario	S.W. McKnight	Ontario
J.(Joe) Bastianpillai	Ontario	Arthur H. Mendel	Québec
Mario Bucci	Ontario	Guy Newsham	Ontario
J. Allyson Chrysler	Ontario	Keith Niall	Ontario
Vince Cimino	Ontario	T. Nilsson	P.E.I.
W.B. Cowan	Ontario	Pascale Reinhardt	Ontario
Biman Das	Nova Scotia	Tim M. Richardson	Ontario
R.V. Day	Ontario	Mankajee Shrestha	Ontario
(Walter T. Delpero	Ontario)	Andrew D. Silbiger	Ontario
Byron Jordan	Québec	Nikolay Stoev	Ontario
S.M. Kaye	Manitoba	Eli Szamosi	Ontario
A. Ketvirtis	Ontario	B.W. Tansley	Ontario
Barbara Kolesnik	Ontario	M.K. Timmings	Ontario
Jacques Lacasse	Québec	R. Topalova	Ontario
R. Lakowski	British Columbia	J.A. Veitch	Ontario
André Laperrière	Québec	James G. White	Ontario
Ken Loach	Ontario	R.W. White	Québec
P. Manning	Nova Scotia	Ernest Wotton	Ontario

( ) = requires CNC/CIE appointment at annual meeting of 2002-October-05.

2002-October-04



COMMISSION INTERNATIONALE DE L'ÉCLAIRAGE  
INTERNATIONAL COMMISSION ON ILLUMINATION  
INTERNATIONALE BELEUCHTUNGSKOMMISSION

Canadian National Committee Comité National Canadien



---

**Canadian Division Members' Reports**

**CNC/CIE 47th Annual Meeting**

2002-October-05

**CIE Division 1**

**Vision and Colour**

**Division 1: Vision and Colour**  
**Report to CNC/CIE 47th Annual Meeting**

Sharon M. McFadden  
Defence Research and Development Canada - Toronto  
P.O. Box 2000, Toronto, Ontario M3M 3B9  
Phone: (416) 635-2189  
Fax: (416) 635-2013  
email: sharon.mcfadden@drdc-rddc.gc.ca

The annual meeting of Division 1 was held 26-28 August in Vészprem, Hungary. The meeting was held jointly with Division 2 and was preceded by a symposium on the Temporal and Spatial Aspects of Light and Color Perception and Measurement. Following the meeting, many of the members attended the Interim Meeting of the International Color Association, AIC Color 2002 – Color and Textiles, in Maribor, Slovenia. Twelve nations were represented at the Division 1 meeting (eleven with voting rights). S. McFadden and A. Robertson represented Canada. Six Technical Committees (TC) met in conjunction with the Division 1 meeting: TC1-44 Practical Daylight Sources for Colorimetry (R. Hirschler), TC1-48 Revision of CIE Document 15.2 Colorimetry (J. Schanda), TC1-57 Standards in Colorimetry (A. Robertson), TC1-59 Standard Photometric 10° Observer (J. Schanda), TC1-60 Contrast Sensitivity Function (CSF) for Detection and Discrimination (E. Martinez-Uriegas), and TC1-61 Categorical Colour Identification.

**Highlights**

Two TCs, TC1-19, and TC1-50 were closed and one TCs, TC1-62 (formerly R1-27), two Reporterships, R1-30 and R1-31 were initiated and TC1-51 was reopened. Publication activities over the past year include:

1. New publications:
  - a. 142:2001 Improvement to Industrial Colour Difference Evaluation (TC1-47)
  - b. 145:2002 The Correlation of Models for Vision and Visual Performance (TC1-19)
  - c. 146/147:2002 CIE Collection on Glare 2002
    - 146 CIE Equations for Disability Glare (TC1-50)
    - 147 Glare from Small, Large and Complex Sources
2. In Preparation for Publication:
  - a. DS 012.1/E Standard method of assessing the spectral quality of daylight simulators for visual appraisal and measurement of color (TC1-53)
3. In ballot:
  - a. Lighting Terminology: Section 2 and 3 (R1-15)

The following changes in Division 1 membership occurred: Mr. Ungbhakorn was appointed representative for Thailand, Dr. Gunde was appointed representative for Slovenia, Yugoslavia joined as a Division 1 member with Goran Obradovic appointed as its representative, Gerhard Rösler was appointed representative for Germany and a new representative was appointed for South Africa. Division 1 now has members from 38 countries.

## **Summary of Progress of Technical Committees and Reporterships**

The following summaries of activities in the various Technical Committees of Division 1 are based on the Activity Report for 2002, and my notes from the 2002 Division 1 meeting. The complete Activity Report is available in PDF format on request. It includes the terms of reference and membership for all Technical Committees and Reporterships.

### **Progress in Vision Section**

TC1-19 Specification of visibility for real tasks: The report has been published and the TC was formally closed at the meeting.

TC1-26 Individual variation in heterochromatic brightness matching: A report was provided at the end of last year. It stated that a draft report was in preparation that included data sets of heterochromatic brightness matching for photopic luminance levels and analyses of those data sets. Further data and analyses were promised, but these have not been delivered. It was recommended that the Chair be asked to deliver a draft report by the end of the year and if the report was not delivered, consideration should be given to closing the TC at the next meeting of Division 1.

TC1-30 Luminous efficiency functions: The acting chair, Y Nakano, is currently preparing a report that removes the extensive discussion on interpolation and recommends that interpolation follow CIE guidelines. Most of the members of this TC have retired. It was recommended that Dr. Nakano be appointed as the Chair of the TC and that he prepare a Chairman's report.

TC1-36 Fundamental chromaticity diagram with physiologically significant axes: The presentation to AIC 2001 was published in SPIE, Vol. 4421, as "Report on a fundamental chromaticity diagram with physiologically significant axes", by Françoise Viénot. This report has been agreed to by all members. Draft 11 is currently being prepared. The members will be requested to vote on the draft starting with those chapters where there is already consensus. Despite a recommendation by Division 1 that the TC restrict the goal of the work to the proposal of agreed fundamentals, the TC insisted that it was necessary to propose a fundamental chromaticity diagram. This implies proposing a luminous efficiency function as well as the fundamentals. Agreement needs to be reached on the principles to be used to derive the luminous efficiency function as well as to propose tabulated values.

TC1-37 Supplementary system of photometry: The purpose of this TC is to recommend a system of photometry that will assess lights in terms of their comparative brightness relationship at any level of illumination. The TC has developed a model, but they need new data to assess the model.

TC1-41 Extension of  $V_m(\lambda)$  beyond 830 nm: The TC has prepared their report, but they require the final report from TC1-36 specifying which photometric system they recommend. Once that is available, the report will be submitted for Division approval.



TC1-42 Colour appearance in peripheral vision: There has been no further report since the presentation of results at the 2001 meeting. The next step will be to summarize the accumulated data and propose a new colour zone map. However, further collaboration to substantiate the existing data is being investigated.

TC1-46 Concept and application of equivalent luminance: The Chair is currently working on the second draft of the report. It will contain extensive modifications. It is proving difficult to define the concept of equivalent luminance. It is not necessarily based only on brightness. Other criteria could be involved such as visual acuity. However, it was recommended that it be restricted to brightness initially.

TC1-50 Disability glare formula: The report has been published and the TC was closed at the meeting in Vészprem.

TC1-51 Visual acuity: This TC was reopened. The new Chair feels that by combining the original report by P. Walraven with extensive data from his own laboratory, there is sufficient data to prepare a report.

TC1-54 Age-related changes of visual responses: The TC presented data on the spectral luminous function to show the reduction of contrast with age. They also have similar data showing the reduction in visual acuity with age. Data showing the effect of age on the contrast sensitivity function was presented at the Symposium. It should soon be possible to start writing a report.

TC1-58 Visual performance in the mesopic range: The Chair of this TC is no longer working in this area. She will be asked to prepare a report on the status of the work to date before stepping down.

TC1-59 Standard photometric 10° observer: This TC met at Vészprem. A draft report has been prepared and distributed to the members. There was some discussion of the content at the meeting. Some sections of the report are still in missing and the Chair requested input for those sections. In particular they are looking for input on the potential usefulness of the standard photometric 10° observer in different application areas.

TC1-60 Contrast Sensitivity Function (CSF) for Detection and Discrimination: This TC met for the first time in Vészprem. The Chair and one of the members summarized their presentations at the Symposium on the contrast sensitivity function. It was agreed that the first step was to define the baseline achromatic contrast sensitivity function. It was further agreed that it should be possible to define this function using existing data. The remainder of the meeting centered on defining the parameters that would be used to select suitable data. Since the imaging community requested the development of a standard CSF, the selection of parameters was made with their interests in mind. A request has been issued for any data or transforms that would allow the integration of data using sinewave patterns with data using Gabor patterns.

R1-16 Visual adaptation to complex luminance distribution: There has been no report since the presentation at the AIC meeting in 2001. The Director will request a report by the end of the year.

R1-19 Specification on individual variation in heterochromatic matching: No report has been received from this reporter in the past year. Again a report will be requested by the end of the year.

R1-23 Guidelines for planning a mesopic photometry investigation: A report was sent to the Division 1 Directors during the past year. They plan to edit the report and publish it as a CIE document. The report captures Dr. Trezona's knowledge on two alternative methods for conducting mesopic photometry investigations.

R1-27 Measurement of pupil diameter: Experiments are currently being conducted at the City University, London, UK. They will be reported on once they are finished.

R1-28 Equivalent Luminance of a Flash of Light: The editor presented an extensive report to the Division 1 meeting. The overall conclusion was that there was not sufficient information available to warrant the formation of a TC. However, he did feel that it would be beneficial to form a TC on visibility of pulses of light (suprathreshold) rather than the detection of pulses of light (threshold) since most of the interest is in visibility.

### **Progress in Colour Section**

TC1-27 Specification of colour appearance for reflective media and self luminous display comparison: The final report covering the experiments carried out by this TC is still being written and has not yet been distributed to Division members.

TC1-38 Compatibility of tabular data for computational purposes: Initially it was expected that the work of this TC would be completed quickly. However, there has been considerable disagreement on small details especially in regards to interpolation. The TC recommends only one method of interpolation while other TCs (1-48 and 1-57) are recommending three possible methods of interpolation. The latest draft seems to be more acceptable to the members and the next draft will be a ballot draft. Both TC1-48 and TC1-57 are awaiting the report from this TC.

TC1-44 Practical daylight sources for colorimetry: This TC met in Vészprem. A large body of data has been gathered and reported on by laboratories in the UK, Vészprem, and Hong Kong. Calvin Lam presented the latest results from the Hong Kong Polytechnic University. The over-all conclusion is that for practical light sources, the CIE method for rating daylight sources agrees well with visual judgements. However, in extreme cases, it can give strange results. In general, the existing sources are not suitable for the assessment of fluorescent materials. The best example is the judgement of the whiteness of paper. However, it is not clear if the problem stems from the simulator or the measurement of the simulator. For non-fluorescent material, the best daylight sources are filtered tungsten lamps. It was recommended that the TC prepare a report summarizing the current findings and restricting

the focus to non-fluorescent material and that a new TC or Reportership be started to investigate measurement of fluorescent materials.

TC1-48 Revision of CIE document 15.2 Colorimetry: This TC met in Vészprem. Consensus is slowly being reached on the revision of CIE document 15.2. A sub-committee has edited the document. The edited version will be draft 16. Members will be asked to vote on that draft. The members were also asked to consider what form the reports should be published in. This has been the most popular CIE publication. Thus, the CIE may want to consider having it type-set and printing a large number of copies. They might also want to consider turning it into a book. Wiley has expressed interest in publishing a collection of books based on CIE documents. A book based on 15.3 could be the first in this series.

TC1-52 Chromatic adaptation transform: The TC aims to complete a technical report reviewing existing chromatic adaptation transforms by the end of 2002. The TC decided not to recommend a particular transform because several of the latest transforms give similar and accurate results in predicting available corresponding-colour data sets. The final report will include all the latest chromatic adaptation transforms and their performance.

TC1-53 A standard method for assessing the quality of daylight simulators: The draft standard was sent to Division members and the Board of Administration for ballot. It was discovered that some non-standard terms and symbols had been used. These were revised and submitted to J. Zwinkels and J. Schanda for review. Since these changes were editorial it was decided that the TC members did not have to re-approve. They will have another opportunity to review the document when it is sent to the National Committees for review.

TC1-55 Uniform color space for industrial colour difference evaluation: Little activity has been reported to the Division on the work of this TC. The Chair has not responded to requests for updates from either the Associate Director or the Editor. However, other members reported that research activity is underway. Apparently, all of the members of TC1-47 have been automatically included as members on this TC. The UK member was requested to contact the Chair and ask that he contact his members and clarify the membership.

TC1-56 Improved colour matching functions: No report was given at the meeting. However, a very thorough report of progress up to the end of 2001 was provided in the Division 1 Activity Report for 2002. Interested people are invited to review that report.

TC1-57 Standards in Colorimetry: This TC is preparing a series of CIE/ISO/IEC standards based on CIE 15.3, Colorimetry. It met in Vészprem. The TC is currently focusing on the section defining the CIELAB uniform colour space. This section should be ready by the end of the year. Since many of the issues surrounding CIELAB also apply to CIELUV, the completion of the section on CIELUV should proceed much faster. There was an extensive discussion on the recommended measurement procedure. The standard will recommend measuring from 360 to 830 nm at 1nm intervals and recording the data to 6 digits. It was argued that this procedure exceeded the capabilities of most measurement instruments and using a less accurate procedure had little impact on uncertainty. The response was that it was up to users to decide what level of accuracy was sufficient for their purposes. However, the

standard should specify the procedure that provided the highest accuracy for all types of sources. There was some discussion of the format of the document. The feeling was that the format should allow extension to include additional sections at a later date. Some of these sections might deal with more fundamental aspects of colorimetry and should precede the current section. Thus some thought was given to preparing multiple documents. The decision about what should be included in a colorimetry standard was deferred to Division 1.

TC1-61 Categorical colour identification: This TC was formed last year and met for the first time in Veszprem. The chair has been conducting studies on defining the Munsell colours associated with 13 colour names under different levels of illumination from 0.1 to 1000 Lux. He has also compared his results with other colour naming data using other medium and stimuli. A major problem is transforming data from CRTs to data from surface colour studies because one needs to decide what the white point was on the CRT. Other issues discussed were the selection of a background colour and the size of the stimuli when the data include both photopic and mesopic illumination levels. It was recommended that surface colours be associated with the categories since these can be transformed into chromaticity coordinates. The reverse transformation is not possible. A second recommendation was that the colour appearance model be used to standardize data from surface and source stimuli.

R1-11 Cognitive aspects of colour: The reporter is currently preparing a more extensive manuscript for publication in the CIE collection.

R1-15 Lighting terminology: The terminology for section 2 and 3 is currently with the National Committees for comment.

R1-24 Colour appearance models: Most of the work in this area is now being carried out under TC8-01.

R1-26 CIE Encyclopedia of Colour: It is proposed to close the reportership and pursue further efforts into publishing a series of CIE handbooks through the Publications Committee.

R1-27 Colour rendering of LED light sources: The reporter is P Bodrogi (HU). There is a very complete report in the 2002 Activity Report for Division 1. In general the correlation between mathematical predictions and visual data is very poor for near-white LED light sources. What is required is to collect more visual data and to compare LED near-white sources with other sources.

### **Proposals for New Reporterships and Technical Committees**

One TC and two Reporterships were proposed.

TC1-62 Colour Rendering of white LED sources: The Chair is P Bodrogi (HU) and the terms of reference are to report on, by visual experiment, the colour rendering properties of white LED light sources and test the applicability of the CIE Colour Rendering Index to white LEDs.

R1-30 Softcopy-hardcopy comparison for standard office conditions: The terms of reference are to study the use of CIELAB for the softcopy-hardcopy comparison under standard office conditions. Dr. Schanda agreed to find a reporter to take on this work.

R1-31 Smooth change of colour difference metric between large CIELAB colour differences and threshold colour differences: K. Richter is the reporter and the terms of reference are to bridge the gap for colour differences between large CIELAB colour differences, e.g.  $E^*_{ab} = 20$ , and threshold colour differences under office conditions.

A third reportership to look at the data available on the detection of flashing lights was proposed at the request of Division 2. However, Division 1 was unable to find anyone to take on the work.

### **Liaisons**

Liaisons are currently established with:

- The Association International de la Couleur: AIC held its successful 9th Quadrennial Congress in Rochester, NY in June, 2001. CIE Division 1 met prior to this AIC Congress. The AIC interim meeting was held in Maribor, Slovenia from August 29-31, 2002.
- Comite Consultatif de Photometrie et Radiometrie, BIPM: CCPR has formed a group chaired by Mr. Bastie (BNM-INM) to produce a generic document showing the formalism to trace photobiological action spectra directly to the SI. Mr. Bastie also undertook to inform the CCPR members before future meetings of CIE activities. The CIPM appointed Dr. Franz Hengstberger (CSIR-NML) as President of the CCPR. The next CCPR meeting will take place around April 2003.
- ISO/TC6/3 – Paper, Board, and Pulp – Optical Properties: This TC met in June 2002. Two new ISO standards were proposed: one for a D65 standard source for evaluating the whiteness of paper and an Interior D65 standard source which is a xenon light source with a 330nm cut-off for use in paper industry with fluorescence.
- ISO/TC35 – Determination of Colour Bias of Achromatic Near White Paint Films: No report was received.
- ISO/TC38/SC1 – No report.
- ISO/TC42 – Photography: In ISO TC42 on Photography, the main area of potential interest to Division 1 is the vocabulary of colour as used in the world of imaging. This is active, ongoing work and involves several people who are members of ISO TC42 and CIE Division 8. There are also activities concerned with using image devices to measure colour in a CIE sense, for example digital cameras and flat-bed scanners. Further information can be found by going to Technical Committee website: <http://www.iso.org/iso.html>.

- ISO/TC130: Graphic Technology: TC 130 Graphic Technology has 5 working groups: WG1 – Terminology, WG2 – Data Exchange, WG3 – Process control, WG4 – Media and Materials, and WG5 – Ergonomics and Safety. Details on the activities of these working groups can be found in the Division 1 Activity Report for 2002.
- ISO/TC187 – Colour Notations: Since initiation, there has been no activity in this TC.
- Steering Committee for Image Technology (SCIT) – This group met in May. There was some discussion over cooperation on ISO/IEC committees.

### **Next Meeting**

The 2003 meeting will be held June 30<sup>th</sup> to July 1<sup>st</sup> in conjunction with the Quadrennial meeting of the CIE in San Diego, CA. A joint meeting with Division 2 is also planned at this time.

### **New Officers for Division 1**

A request for nominations for a new Director for Division 1 was issued. So far, no nominations have been received. The other Officers are unchanged.

### **Canadian Participation in Division 1**

Based on the latest information available to me, Canada has representatives on 16 Technical Committees in Division 1. The Canadian representatives are W. Adrian on TC1-51, W. Cowan on TC1-37, S. McFadden on TC1-42, and TC1-60, A. Robertson on TC1-27, TC1-38, TC1-48, TC1-56, TC1-57, and TC1-59, R. Topalova on TC1-46 and TC1-54, and J. Zwinkels on TC1-38, TC1-44, TC1-53, and TC1-57. If anyone is interested in participating in one of the TCs, especially the newer ones, please contact me.



COMMISSION INTERNATIONALE DE L'ÉCLAIRAGE  
INTERNATIONAL COMMISSION ON ILLUMINATION  
INTERNATIONALE BELEUCHTUNGSKOMMISSION

Canadian National Committee Comité National Canadien



---

**Canadian Division Members' Reports**

**CNC/CIE 47th Annual Meeting**

2002-October-05

**CIE Division 2**

**Physical Measurement of Light and Radiation**

**CIE DIVISION 2:**  
**PHYSICAL MEASUREMENT OF LIGHT AND RADIATION**  
**Report to CNC/CIE Annual Meeting**  
**October 5, 2002**

J.C. Zwinkels  
Institute for National Measurement Standards  
National Research Council of Canada  
Ottawa, Ontario K1A 0R6

Phone: (613) 993-9363  
FAX: (613) 952-1394  
E-mail: [joanne.zwinkels@nrc.ca](mailto:joanne.zwinkels@nrc.ca)

The most recent CIE Division 2 General and TC meetings were held August 24-28, 2002 at Veszprem University, Veszprem, Hungary in conjunction with the CIE symposium on Temporal and Spatial Aspects of Light and Color Perception and Measurement (August 22-23) and the CIE Division 1 meeting. Dr. Alan Robertson (NRC) represented Canada at these meetings. The following report is a summary of the meeting highlights based on his report and additional information provided by D2 Secretary, Yoshi Ohno. The minutes of the meeting are not yet available but the 2002 Division 2 meeting program can be found at: <http://cie2.nist.gov>.

### **Administrative Matters**

There is no change in the D2 officers:  
Division Director – T. Goodman (UK) ; Associate Directors: N. Johnson (USA), T. G. Sauter (Germany); G. Vandermeersch (Belgium); Division Editor - J. Moore.  
Secretary: Y. Ohno (USA). All officers were present at meeting, except for G. Sauter

#### D2 Mailing List: 152

No increase in dues for 2003 but new formula will be used. BA looking into selling publications by internet. A trial is being carried out in South Africa only with publication prices reduced by 50%. The NCs can decide how to set publication prices; some NCs are passing on the savings to customers; the UK NC is using the “windfall” to stimulate research.

For the CIE Quadrennial meeting in San Diego, it is recommended that the TCCs book their meeting rooms as soon as possible through D2 Secretary to avoid conflicts.



## Secretary's Report

The official D2 site is: <http://cie2.nist.gov/>, which was most recently updated August 3, 2002. A template of TC draft document is on TC list page (including watermark). TC drafts can be posted to web (with password) as PDF files. E-mail reflectors have been set up for D2 and 3 TCs, e.g. [CIE-D2@nist.gov](mailto:CIE-D2@nist.gov). Only subscribers can send messages and replies go to D2 secretary for archiving.

## Editor's Report

TC 2-22 *Luminous flux of high-pressure sodium lamps* has been held up because one participant opposes its publication because there is no uncertainty statement. However, this comparison was carried out ~1991, i.e. pre-GUM. TCC is inactive so D2 editor is dealing with it.

## Technical Committee Work in Progress

<b>TC 2-04</b>	Secondary light sources (Moore, UK)	This TC is open until final report has been approved.
<b>TC 2-16</b>	Characterization of the performance of tristimulus colorimeters (Rastello, Italy)	The final report is almost ready.
<b>TC 2-17</b>	Simulated solar radiation (D. Kockot, Germany)	No report received. TC has been inactive for several years. TCC looking for replacement.
<b>TC 2-19</b>	Measurement of spectral coefficient of retroreflection (N. Johnson, USA)	The report is almost ready for TC ballot.
<b>TC 2-23</b>	Photometry of street-lighting luminaires (G. Vandermeersch, Belg.)	TC met in Veszprem.
<b>TC 2-24</b>	Users guide for the selection of illuminance and - luminance meters (K. Ganesha, India)	No report.
<b>TC 2-25</b>	Calibration methods and photoluminescent standards for total radiance factor	The 10 <sup>th</sup> draft of report is being prepared by TCC, incorporating input from members on terminology,

	measurements (J. Zwinkels, Canada)	notation, and editorial changes. This draft will be circulated for TC vote in advance of San Diego meeting.
<b>TC 2-28</b>	Methods of characterizing spectrophotometers (P. Clarke, UK)	The final TC report should be ready this year.
<b>TC 2-29</b>	Measurement of detector linearity (T. Goodman, UK)	Tom Larason (NIST) is to be new TCC.
<b>TC 2-30</b>	Diode array radiometry (J. Palmer, USA)	No report. TC Director recommended integrating this into TC 2-51 (Austin).
<b>TC 2-32</b>	Measuring retroreflectance horizontal road markings (Hodson, USA)	The TC met with D4 in Istanbul last year.
<b>TC 2-35</b>	CIE Standard for $V(\lambda)$ and $V'(\lambda)$ (Mielenz, USA)	This TC report is currently with D2 editor. There are editorial problems as well as a conflict with the ILV.
<b>TC 2-37</b>	Photometry using $V(\lambda)$ -corrected detectors as relative and absolute methods transfer standards (Ohno, USA)	The work of this TC is almost finished and ballot is expected soon.
<b>TC 2-39</b>	Geometric tolerances for colorimetry There: (D. Rich, USA)	Fourth draft of report has been prepared and circulated to members for comments.  is some concern about the concept of defining standard tolerances and that this TC and CIE Pub. 15.3 (TC 1-48) must be in agreement.
<b>TC 2-40</b>	CIE standard: characterizing the performance of luminance illuminance meters (Rattunde, Germany)	No report.

<b>TC 2-42</b>	Colorimetry of visual displays. (C. Wall, U.K.)	No report.
<b>TC 2-43</b>	Determination of measurement uncertainties in photometry (Sauter, Germany)	No report.
<b>TC 2-44</b>	Vocabulary Matters (Moore, UK)	D2/BA ballot has been completed.
<b>TC 2-45</b>	Measurement of LEDs- Revision of CIE 127 (Muray, USA)	No formal report. D2D gave informal report: radiance measurements have been added because of safety standards.
<b>TC 2-46</b>	CIE/ISO standards on LED intensity measurements (Scarangelo, USA)	TC plans to meet next in San Diego.
<b>TC 2-47</b>	Characterization and Calibration Methods of UV Radiometers (G. Xu, Singapore)	No official report. TC last met at Newrad in Gaithersburg and discussed 2 <sup>nd</sup> draft of report. There is an EC project with similar objectives – details are on web.
<b>TC 2-48</b>	Spectral responsivity measurement of detectors, radiometers, and photometers (Eppeldauer, USA)	TC met in Veszprem. Several chapters of the report are virtually complete. There is a request to extend range to 3000 nm because of a safety standard but this is difficult because few NMIs have this capability. Decision was made to limit TC to 2500 nm.
<b>TC 2-49</b>	Photometry of Flashing Lights (Y. Ohno, USA)	TC met in Veszprem. New draft was recently completed and discussed at meeting. A WG has been set up to define experimental conditions. TC wants to find someone to do experiments to check modified Allard method. Need to coordinate with D1.
<b>TC 2-50</b>	Measurement of the LED clusters and arrays (G.Sauter, Germany)	No report. .

<b>TC 2-51</b>	Calibration of diode-array spectrometers (R.Austin, USA)	TC last met in Gaithersburg and discussed expanding TR to include CCD array spectroradiometers. Title of TC has been changed to “Calibration of multi-channel spectrometers”; D2 members voted in favour of change.
<b>TC 2-52</b>	Addendum to CIE 121-1996 for the photometry of emergency lighting luminaires (G.Vandermeersch, Belg.).	TC met for the 1 <sup>st</sup> time in Veszprem and 1 <sup>st</sup> draft of report was presented.
<b>TC 2-53</b>	Multi-Geometry Colour Measurements of Effect Materials (G. Roesler (Germany))	TC met in Veszprem. Has several volunteers to provide contributions. Meeting was largely brainstorming.
<b>TC 2-54</b>	Review of IEC Documents for Colour Measurement and Management in Multimedia Systems (J. Schanda, Hungary)	TCC suggests conversion to Reportership due to lack of interest and volunteers.

**Reporterships in Progress:**

**R 2-05 Visual gloss (J. Taylor, UK)**

**R2-21 Use of Detectors as Absolute Transfer Standards for Spectroradiometry (N. Fox, NPL)**

**R2-23 ISO/CIE Standards for the Measurement of Reflectance and Transmittance (D. Rich, USA)**

**R2-27 Field Measurements for Traffic Signals (C. Andersen, USA)**

**R2-28 Evaluation of Colorimeter Spectral Responsivity (B. Kranicz, Hungary)**

---

**\* Reports of Liaisons:**

## **ISO/ TC6 (J.Zwinkels, Canada)**

The most recent meeting of TC6/WG3 (paper, pulp and boards – optical properties) was on June 6, 2002 in Paris, France.

The following ISO draft standard is being balloted (parallel CEN and ISO voting):  
ISO DIS 8254-2 (prEN ISO 82545-2) “Gloss at 75° according to DIN”.

The following ISO draft standards are currently being prepared/ reviewed:  
ISO/DIS 8254-3.2 “Determination of Gloss at 20°” (will soon be circulated for ballot).

**ISO/CD 22891 “Determination of Transmittance” (for translucent paper)**

**ISO/CD 22754 “Determination of Residual Ink Concentration”**

**Revision of ISO 2469 “Measurement of diffuse reflectance factor”**

Of possible interest to CIE are the following proposed changes in this standard:

- Introduction – change “CIE tristimulus values” to “luminous reflectance factor”
- The concept of a new “ISO/TC6 consensus reflectance scale” to be introduced as an “accepted reference scale” in order to provide a basis for a meaningful expression of measurement uncertainty associated with the values assigned by the authorized laboratories to their IR3s.

The following new ISO standards have been proposed:

“The determination of D65 brightness”

“The determination of colour (D65/10°).

The following general issues were also discussed at this meeting : (1) method to correct standardizing laboratory data for geometric and possible photometric differences with authorized laboratory instruments; (2) proposal to improve inter-instrument agreement on fluorescent materials by using an interior D65 source, ID65, based on the use of a Xe lamp system with a 330 nm cut-off filter; (3) liaison with ISO TC 38 (textiles) and ISO TC 130 (graphic arts); (4) approval of resolutions to: contact International Color Consortium, ICC, to establish liaison concerning colour management on paper substrates; and to contact the Standardizing Laboratories (NRC, PTB and NIST) to request a new inter-comparison be carried out, that includes a Spectralon LS99; and (5) limitations in measuring the fluorescent component of brightness or whiteness.

---

### **\* Proposals for 2 New Technical Committees:**

#### **(1) Round Robin Investigation of Implementation of CIE Photobiological Safety Standard.**

K. Kohmoto (Japan) as the Chairman

TR To conduct a measurement intercomparison in order to investigate potential systematic errors in the interpretation of measurement procedures laid down in the CIE photobiological safety of lamp standard, and determine whether improvements are

required to the specified procedures. The output will be a technical report describing the intercomparison, the results, and recommendations for improvements to the measurement procedures in CIE S009.

**(2) CIE/ISO Standards on Retroreflection Measurements (from CIE54.2)**

Proposed by N. Johnson (USA); Christine Stratford suggested as possible TCC. DD to prepare TR and to contact Christine to confirm her chairmanship.

---

**\* Proposal for 3 New Reporterships:**

**(1) Characterization of Imaging Luminance Measurement Devices.**

Proposed by Peter Blattner. To prepare a proposal for a new TC to prepare a recommendation on characterization and calibration of CCD-based imaging photometers, having input from D4 and D8 on the needs from application side.

**(2) Problem Linked to Correct Measurement of TL5 Fluorescent Lamps with Existing Electronic Ballast** (Reporter: Vandermeersch)

**(3) Problems with Spectroradiometric Measurement of Light Sources Associated with Bandpass and Sampling Intervals.** Proposed by John Moore. To prepare a proposal for a new TC to revise CIE 63 (1984) with reiterating various measurement principles, problems and solutions related to bandpass and sampling intervals, including the effects on colour (Reporter: David Gibbs).

---

**General CIE Issues:**

Division Director for 2003-2007 to be nominated. T. Goodman and other executive team are willing to serve another term. No new nominations were received and consensus was that D2 is not requesting any changes.

Handbook Issue: CIE BA has an idea to publish new forms of publication (like a handbook) on various themes (colour, spectroradiometry, etc.), as a new way to sell publications. It was discussed compiling related CIE publications on D2 subjects as one book, with some introductory page at the beginning – similar format as the ASTM Standards on Colour and Appearance.

**Future Symposia:**

D2 recently had two symposia on LED measurements (1997,2001), one on uncertainty (2001) and one on flashing lights (2002). There was a vote regarding the need to repeat these symposia: LED (8), uncertainty (5) and flashing light(0); no other symposia topics were suggested. It was agreed to have an LED Symposium in 2004.

**Future CIE Division 2 Meetings:**

- 2003:** June-July at San Diego, California in conjunction with CIE 25<sup>th</sup> Session.
- 2004:** Two proposals: (1) with D1 in Japan; (2) in conjunction with 3<sup>rd</sup> CIE Expert Symposium on LED Measurements in Italy. Vote: Japan 8), Italy (8). No decision, as yet.
- 2005:** Open

**Other CIE Division 2 Notes:**

Canadian participation in the work of the Division continues at a high level with the following members of Technical Committees or Liaisons:

TC 2-04	A. Gaertner (NRC)
TC 2-16	A.R. Robertson (NRC)
TC 2-25, Chairman	J.C. Zwinkels (NRC)
TC 2-28	A.R. Robertson, J.C. Zwinkels
TC 2-35	A.R. Robertson
TC 2-39	J.C. Zwinkels, B. Jordan (PAPRICAN)
TC 2-42	S. McFadden (DCIEM), R. Baribeau (NRC)
TC 2-43	A. Gaertner (NRC)
TC 2-47	L.P. Boivin (NRC), B. McArthur (AES)
TC 2-48	B. McArthur (AES)
ISO/TC6, Liaison	J.C. Zwinkels (NRC)



COMMISSION INTERNATIONALE DE L'ÉCLAIRAGE  
INTERNATIONAL COMMISSION ON ILLUMINATION  
INTERNATIONALE BELEUCHTUNGSKOMMISSION

Canadian National Committee Comité National Canadien



---

**Canadian Division Members' Reports**

**CNC/CIE 47th Annual Meeting**

2002-October-05

**CIE Division 3**

**Interior Environment and Lighting Design**



# **CIE DIVISION 3 ACTIVITY REPORT**

**Submitted by I. Pasini, Canadian Delegate to Division 3  
for the CNC/CIE Annual Meeting, Ottawa, Ontario, October 4-5, 2002**

Division 3 met in Ottawa, Canada, on October 4, 2002. Highlights of the meeting are found next on this report and prepared as a 'Draft'. A fuller Draft Report of the meeting is attached as a separate document. Given the lack of time to prepare all these documents and reporting on them virtually within few hour, an oral presentation and discussion will be made, drawing from all submitted 'Draft Documents'

The Division 3 Secretary, Dr. J. Cooks was unable to attend TC meetings during the past year but promised to send reports soon on their current state. Once received, they will be transmitted to our Secretary for distribution.

This was an opportunity to have the Division 3 TC meet. However, only TC3-34 A Protocols for describing lighting= Chair Dr. Jennifer Veitch, held a meeting, attended by Regis Lachiver [Fra], the only other TC3-34 member. Dr. Rados Topalova [USA] Ivan Pasini, [Canada] Division 3 Delegate.

Dr. Mark Fontoynt, Division 3 Director and several visitors also attended this meeting. Minutes of the meeting are found below.

TC3-30, Chair Dr. L. Whitehead could not attend but sent the following report (verbatim)

“As for CIE TC 3-30, here is a brief summary of progress:

In early 2002, M. Fontoynt, Director of Division 3, approved changes in the report (which had been made in response to concerns raised by Prof. Aizenberg), and he instructed me to send the new version to the Committee for a vote. I did this. To summarize the responses, no one objected to the changes, but 3 members voted against the report. Here are the details:

Negative responses were:

Aizenberg, who rejected the new changes as insufficient to overcome his objections  
Korobko, a previous collaborator of Prof. Aizenberg, who declined to elaborate.  
Bukman, also a previous collaborator of Prof. Aizenberg, who also declined to elaborate.

The other members of the Committee remain in support.

I reviewed this information with Dr. Fontoynt at the Right Light 5 Conference in May 2002, and he is now deciding how to proceed.”

Dr. Rados Topalova [USA] reportships R3-17 “Coefficient of Utilisation in Lighting Calculations” handed her report to Mr. Pasini and is attached to this Activity Report.

**DIVISION 3 MEETING, Friday, October 4/02**  
**Ottawa, Canada**

These are the 'unofficial' minutes of the meeting, taken and submitted to the CNC/CIE by Ivan Pasini, Canadian Delegate to Division 3. Official minutes will be sent once received by the Division Secretary.

**Attendance**

Some 25 people attended, but I did not have time to append the name list. It will be mailed later with the official minutes by the Secretary of the Division

**Meeting Items**

1. Division Director opened meeting
2. Agenda approved
3. Apology for absence
4. Approval of minutes of Reykjavik meeting approved with minor changes submitted at an earlier time
5. Division membership changes: some but details discussed at each TC, Reporter or Liaison level of the minutes.
6. Division membership changes:  
it appears to be none from the secretary. Marc Fontoynt reported that Ms Kanaya has resigned as Associate Division Director of Artificial Lighting was proposed to be replaced by Y. Nakamura (Yapan). The Board in Vienna will be required to approve. Proposed change approved by Division 3.

Mark Fontoynt announced he will be completing his term. Members were reminded to submit any proposed candidates, including the present Director. Maximum of 2 terms can be filled by the same candidate. Marc asked if there were any interested candidates. No new proposed names were suggested. Marc asked that a formal request for the position be done by e-mail (with an indication of candidate ranking). He is however willing to continue. Normally a 6 month time frame is required to complete this task.

7. DIVISION DIRECTOR & ASSOCIATE DIRECT DIRECTORS REPORT:  
Marc is reporting only on TC3-34. TC3-38 was conducted in Nice. TC3-31 should be practically completed. Several TC's are completing their work, however scant information is provided to the director. San Diego's meeting will be a bench mark to assess the progress of the Division.

D. Dumortier, Associate Director Daylighting stated it would be better if TC's work with the European TC's which fosters faster turnaround.

The last Board Meeting in Vienna was addressed by Hans xxx Reported paper committee interest in completing their work for San Diego. Division 3 will have a large number of papers

It was also decided to keep national membership fees unchanged and to reduce the cost of publications.

8. TC CHAIR REPORTS:

TC3-01: closed; work finished but could be influenced at a later date form work by TC3-15

TC3-11: report on preliminary work received from Chair; concern is about the very low activity level the Chair (this also applies to TC3-19 and TC3-32). Chair would like to submit current papers related to the TC's to Division members for review, before presentation in San Diego. Marc is calling for a vote of confidence to keep/close these TC's, subject to evidence of progress at San Diego. An option could be to save some reports by internally reviewing them and find them suitable for publication as a Reportership contribution.

TC3-15: A report was produced on sky luminance model (16 types). It will not become a standard until work from other TC's (on practical use to practitioners) will be completed and useful information annexed

TC3-20: *Lighting in Architecture*. Report presented at last meeting at Reykjavik. Assessment appears the document is too personal. Additional work (insertion of pictures) is still required; however costs are a great concern to the CIE. Suggested to use a CD-ROM, in spite of reduced reproductive quality. Also translation in English is required. Document is recommended to be circulated within the Division for review before attempting publication

TC3-21: *CIE/ISO Interior lighting standards*. Closed. ISO progressed with balloting ow a ISO standard during the summer and is n

TC3-22: *Museum lighting* Little sign of activities, mainly due to differing opinions among members. Needed is a report before San Diego or else the TC will be closed. Secretary to advise Chair and members of the situation.

TC3-25: *Coordination and development of the IDMP and its data*. Most of work completed. Several daylighting measurement stations are no longer operational. Data produced by all stations needs to be normalized across all stations but there are political impediment considerations. Outputs of this TC was a WEB, completed, collect data and distribution, still to be completed (could be completed by a conference in 2003in Edinbourg).

TC3-30: *Hollow light guides*. Strong disagreement among Russian and North American members, resulting in split votes on the final product. Marc was trying to bring a final resolution of this issue. Marc suggested to resolve the issue by publishing a report with an explanatory note by the Director of the Division. The two main disagreeing parties, Whitehead and Aizenberg, will present a paper on the subject at San Diego. It might result

in an interesting 'final show down'

TC3-31: *Lighting for real spaces*. Draft document completed and sent to the Director for reviewing (completed). Final review will be initiated by the Director very soon.

TC3-33: *Assessment of accuracy of lighting computer programs*. Change of Chair (3 times) has slowed progress somewhat. However similar interest is present in the IEA (Task 31, Sub-task C) and should speed-up progress. Several bench mark testing are progressing well, resulting in reference condition setting for new software. Scheduled cooperative activities with IEA will reduce costs as well. San Diego will have a session on this subject with several papers.

TC3-34: *Protocols for describing lighting*. TC met on the previous day. A complete draft report will be ready for San Diego and work is progressing reasonably well.

TC3-35: *General Evaluation of discomfort glare*. Chair resigned (K. Sorensen) in 2000. It has been dormant since then. Adrian offer to help as a contributor during last Division meeting in Reykjavik. Osterhous, Hans (NZ) offer to contribute, perhaps by first starting a Reportership and then deciding where to go next. Marc is proposing to close this TC and move to open a new one, chaired by Osterhous, who has accepted. Terms of reference will be prepared later during the day.

TC3-36: *Use of satellite images to derive daylighting data*. World-wide cooperation to using satellite images and luminous efficacies models to derive daylighting data is progressing. USA lack of funding has slowed progress. The TC will compare various luminous extraction models to select best solution.

TC3-37: *Application of the CIE general sky*. First Draft Report is forecasted to be ready for San Diego. There will be a full paper slate at San Diego on this subject

TC3-38: *Tubular daylight guidance systems*. Conference in Nice last winter saw several papers on applications. Work is progressing. Secretary to ask Aizenberg to join TC and also to contribute paper(s) at San Diego.

## 8. REPORTERSHIP

R3-02: *Stage studio lighting*. Work progressing although no written reports are submitted. It works more as a liaison than a reportership.

Marc Fontoynt tabled change of definition.

R3-06: *Accident and lighting*. Closed, due to difficulty is obtaining field data and data from insurances and government bodies.

R3-10: *Maintenance of indoor lighting*. No report

R3-13: *Lighting vocabulary*. Belcher resigned, no report. Volunteer needed. A Japanese National Member (do not recall name) will take the job. A single point English reviewer is required. Jennifer Veitch will help.

R3-15: *Lighting standards*. A preliminary report, mainly composed of a spread sheet, has been submitted but not progressed since recent memory. Secretary to ask for the report to be circulated for comments.

R3-16: *Lighting in developing countries*. No report.

R3-17: *Calculation of utilization factors*. Paper presented in Warsaw showed discrepancies among several nations of deriving CU values. Axel Sotckmar has done additional work in this area which will be presented in San Diego. Final report will be prepared in time for San Diego, utilizing Axel's work.

R3-18, 19, 20 *Environment climate and visual preferences, Glare from windows, The use of satellite data*. These three documents were prepared and circulated in May 2000.

## 9. LIAISON OFFICERS REPORTS

### 1. CEC Joule Projects: Marc Fontoynt

Several European Labs have worked together under the European Commission to develop more energy-efficient lighting, innovative lighting, windows, behavioural aspects. Building sciences is lobbying to have EC funded research.

### 2. CEN/TC169: Lighting Applications, Anthony Slater

There are 8 working groups of TC's to set European standards. CEN is interested in the recently adopted CIE/CIE Lighting for Interior Spaces. No specific reports available at this time. L. Bedocs is also involved. Minutes have been prepared and will be sent by the Secretary as soon as available

### 3. International Association of Lighting designers, Joules Horton

No report. Secretary stated Jules retired. Kramer was also involved but no details available at this time.

### 4. IEA, Nancy Ruck. Proposal by Neils Borg (Sweden) to start a new task on electric lighting. No action as initiative has failed

5. ISO/TC159/SC5/WG2, Ergonomics Physics Environment Lighting, Lou Bedocs.
6. Ditto except SC2/WG3, Ergonomics Signs and controls, Workplace and Environment, Lou Bedocs.
7. ISO/TC160/SC5/WG2, Glass in Buildings - Light and Energy Transmission, Hans Allan Lofberg. Touchy Yoshi to report
8. ISO/TC59/SC159/SC3, Building Construction User Requirements, Peter Tregenza, No reports
9. WMO, Peter Valco. He retired. Secretary should try finding an alternate.

10. REVIEW OF DIVISION 3 PUBLICATIONS

TC Chairs will be asked to review the relevancy of current documents and indicate what it is required to be done with them. Secretary to make contact. Comments expected before San Diego Conference.

11.0 FUTURE WORK:

Lighting for the elderly is an issue requiring a new document. Look at liaise with other societies who have done work on this issue. Report work completed by whom. Secretary will be the officer.

Overhead Glare, requires Liaison, Ivan Pasini to be the one and to report by San Diego.

11.1 Changes to existing TC's

11.2 New TC:

TC3-39: Discomfort Glare from daylight in Buildings  
Review existing discomfort glare assessment methods,  
identify opportunities, threats in the existing methods,  
identify parameters and how to use them, proposed potential assessment  
methods to assess glare in daylighting  
Potential Members: Japan, New Zealand, Germany, Canada (R. Topalova),  
France, UK, Netherlands, USA(?)

11.3 Proposal for new reporters See above

11.3 Proposal for new liaisons See above

12. Next Meeting:

San Diego, Monday, 30 of June to Wednesday, 2 of July, 2003

12. Other Business:

1. Announcement of Lux Europe in Berlin, September 18 to 24, 2005
2. Dominic Dumortier asked for more WEB server support needed

## R3-17: COEFFICIENT OF UTILIZATION IN LIGHTING CALCULATION Reporter: Dr. Radosveta Topalova, MSEE, LC

The method of Coefficient of Utilization for calculation of luminous flux density is the mainly used method in lighting design. Coefficient of Utilization is the amount of light (lumens) delivered in a work plane as a percent of the rated lumens of the lamp. It is calculated as a ratio of luminous flux falling on surface of illuminated area to luminous flux created by light source in the fitting.

Coefficient of utilization is an important component in the formula for calculation of illuminance:

$$E = (n \cdot \phi \cdot \eta) / (S \cdot k)$$

In which:

- E - illuminance, average luminous flux density on working area considered
- n - number of lighting fittings
- $\phi$  - total flux of the lighting fitting
- $\eta$  - coefficient of utilization (CU), considering coefficients of reflection of ceiling, walls and floor, fitting efficiency and utilization indicator
- S - area of the illuminated surface
- k - capacity ratio including reduction of luminous flux density with time of utilization, closely connected with employed maintenance system

Manufacturers for different field applications provide CU Tables.

They represent common lamp/fixture/trim combinations (luminaires) used in lighting design. By using the Lumen Method, a comparison can be made to the effectiveness of each type as indicated by the number of luminaires required. The CU table information can be substitute for a similar luminaire that has no published CU table. This is standard practice in lighting design and is much better than guessing. However it does not always give the same answer when we apply the existing method modifications used in different countries.

At the Division 3 meeting in Warsaw the calculated by the reporter discrepancies were presented. The necessity of updating the CIE procedure for calculation of the coefficient of utilization was revealed. Two years later, Axel Stockmar also confirmed the existence of discrepancies using his program for calculation of utilization coefficient and reported the results at the Lighting Conference, Rumania, 2001. The finalizing of the further program development was discussed at the last Division meeting in Reykjavik and a positive outcome had been expected.

I hope that at the meeting in Ottawa Axel Stockmar will inform the Division members about the latest updates in developing of an up-to-date calculating procedure.



## **CIE/TC3-34 'Protocols for describing lighting'**

Ottawa, October 3, 2002

### Minutes of the Meeting

Attending:

Chair: Dr. Jennifer Veitch [Canada]

Dr. Rados Topalova [Canada]

Regis Lachiver [Fra]

Dr. Veitch suggests visitors to contribute since so few members are present.

Dr. Veitch delineated the 4 goals of the TC

Purpose are:

1. For the researchers to determine exact and clear protocols to be used in a standardized manner by all researchers.
2. For the practitioners to understand the numerous issues involved
3. Publication of results

Dr. Mark Fontoynt commented on the fact that he thought the reference for this committee included 'quality' but Dr. Veitch stated it does

Dr. Topalova suggested to better define the meaning of 'high-luminance areas'. Discussion followed by all attendees, resulting in a suggestion to define generally the luminance ranges and their role in lighting spaces.

I. Pasini stated that a simple (for practitioner) and a more complex (for researcher) definition of luminance measurement requirements is needed

Dr. Anna Pellegrino stated this can be addressed as 'basic' and 'optional'

Dr. Lofberg stated that Division 2 should be consulted and appropriate references made.

Dr. Mark Fontoynt commented he was hoping quality aspects would be included to which Dr. Jennifer Veitch responded that this issue was not part of the mandate

Dr. Lofberg stated that the most significant qualitative descriptors should be suggested and perhaps incorporated.

Dr. Mark Fontoynt suggested to define better daylight and daylighting and their associated elements and this applies to electric lighting.

Dr. Veitch requested to review Section 6. 'Task plane light distribution' to ensure all appropriate and relevant parameters are captured.

She is suggesting defining the near (task) and far surfaces descriptors in terms of luminance etc. Shared by Dr. Rados

Dr. Mark Fontoynt suggested to use side-by-side pictures, with one showing photometric values. Mark Fontoynt will supply some images to Dr. Veitch.

Dr. Veitch wants to improve on Section 9 'Dynamic Effects'. Some definitions will be improved by adding application-related qualifiers.

Dr. Veitch suggested to look at section 8. 'Colour' and check for completeness and accuracy of definition. Division 2 to be contacted for input in proposing instruments to measure colour.

Dr. Veitch will include a text addressing quality lighting at the introduction of the document.



COMMISSION INTERNATIONALE DE L'ÉCLAIRAGE  
INTERNATIONAL COMMISSION ON ILLUMINATION  
INTERNATIONALE BELEUCHTUNGSKOMMISSION

Canadian National Committee Comité National Canadien



---

**Canadian Division Members' Reports**

**CNC/CIE 47th Annual Meeting**

2002-October-05

**CIE Division 4**

**Lighting and Signalling for Transport**

*(no report submitted)*



COMMISSION INTERNATIONALE DE L'ÉCLAIRAGE  
INTERNATIONAL COMMISSION ON ILLUMINATION  
INTERNATIONALE BELEUCHTUNGSKOMMISSION

Canadian National Committee    Comité National Canadien



---

**Canadian Division Members' Reports**

**CNC/CIE 47th Annual Meeting**

2002-October-05

**CIE Division 5**

**Exterior Lighting and Other Applications**

**CIE DIVISION 5 :**  
**EXTERIOR AND OTHER LIGHTING APPLICATIONS**

**REPORT toCNC/CIE, 47th ANNUAL MEETING**  
**October 5, 2002**

**Jacques Roberge**  
803-3, boulevard Simard  
Saint-Lambert, Québec J4S 1Y8

Telephone : (450) 671-5183  
(450) 466-8550  
Fax : (450) 671-7068  
E-mail : « jroberge@login.net »

The 2001 annual meeting of Division 5 took place on September 11, 2001, at the Ferrye Cultural Centert in Istanbul,Turkey. Again Division 4 and 5 were having their meeting in the same place and during the same week : the formula appears to be a good one, but it was noted that a two-day time frame is definitely not adequate for joint meetings including TC meetings. A three day perion would a minimum, and better coordination is defenitely required to avoid major schedule conflicts.

Twenty four people attended the Division 5 meeting, from13 different countries. Eight Divisionnal voting members including myself were present, plus one proxy from South Africa. Minimal activity took place in the 12 months preceeding the meeting, and no papers nor reports were published, since none were finalized during that period.

The minutes of the meeting are attached to this report. Worthy of note is appendix 1 to the minutes, listing Chair and Members of each active technical committee for Division 5.

A more recent document, the Division 5 Director's Report, dated September 2002, is also attached to this report and represent the most complete and up-to-date information available,

I attended so far all Division 5 activities that did not require me to be in two places at the same time, and will be pleased, if requested, to provide any further information that may be at my disposal.

Respectfully submitted, September 2002.

Jacques Roberge  
Member, Division 5, CNC/CIE

Attachment 1 : Minutes, CIE Division 5 meeting, 2001-09-11

Attachment 2 : Annual Report, CIE Division 5, 2002-09

## CIE DIVISION 5

**DRAFT**

**Minutes of the Division Meeting  
Held on Tuesday 11th September 2001  
at the  
“Feriye Cultural Center”  
Istanbul, Turkey.**

<b>Present:</b>	Alvarez del Castillo, Elizabeth	USA		
	Audestad, Jan. H.	Norway	(m)	
	Bartsev, Aleksei	Russia		
	Bjelland, Erik	Norway		
	Crawford, David	USA		
	Crawford, Mary	USA		
	Jacobsen, Hans J.	Denmark		
	Justen, Henri	Finland	(m)	
	Hermann, Christine	CIE - CB		
	Horvath, Jozsef	Hungary	(m)	Division Director
	Korobko, Alexei	Russia		
	Kawakami, Kahji	Japan	(m)	Reporter, R 5-10
	Lofberg, Hans Allan	Sweden		CIE President
	Lemons, Tom	USA	(m)	Chair, TC 5-20
	Major, Gyula	Hungary		
	Mahai, Jauos	CIE - CB		
	Pollard, Nigel	UK	(m)	Secretary + TC 5.12/14
	Roberge, Jacques	Canada	(m)	
	Sagawa, Ken	Japan		
	Schwarcz, Peter	Hungary		Chair, TC 5-16
	Serefhanoglu-Sozen, Mujgan	Turkey	(m)	Chair, TC 5-21
	Shakhparunians, Anna	Russia		
	Stockmar, Axel	Germany		
	Van Tonder, Natasha	South Africa	(d/v – Dennis Culley)	

Note: (m) = Divisional voting member

## 1. OPENING OF THE MEETING

The Division Director welcomed all delegates to the meeting and especially Mujgan Serfhanoglu, for the splendid venue and hospitality in Istanbul.

Apologies were received from:

Pranab Bandyopadhyay	India	-	Editor
Hans Henric Borset	Norway		
Dennis Culley	South Africa	-	vote to Natasta van Tonder
Austin, Kelvin	UK		
R. San Martin	Spain		
Jacques Lecocq	France		
van den Beld, Gerrit	Netherlands		
Robbie Yates	South Africa		
Bruno Weis	Germany		

### Changes in Membership

Mr Gary Ko (Hong Kong) - from Mr Peter Chan

Delegates introduced themselves to the meeting.

## 2. MINUTES OF LAST MEETING: TORONTO, 8 SEPTEMBER 2000.

The amended Minutes, dated August 2001, were agreed.

### **DIRECTORS REPORT**

This had been circulated before the meeting and was detailed by the Director, and formally accepted.

## 4. SECRETARY'S REPORT

There has been little Divisional activity since the last meeting in Toronto in September 2000.

One "Activity Report" had been produced together with the minutes of the aforesaid meeting. A Roster had been sent out to which a list of the various TC members would soon be added.

The Divisional Web Site had unfortunately made little progress, although the Secretary was hoping to arrange hosting agreement with the UK Institution of Lighting Engineers (ILE), before the end of the year.

## **5. EDITOR'S REPORT**

There was nothing to Report as no papers or Reports had be finalised

## **6. TECHNICAL COMMITTEE REPORTS**

### **TC 5-08 "Lighting of Off-shore Gas and Oil Structures" (H-H Bjorset)**

A Report from the Chairman had been received, in which it was informed that no progress had been made, although a couple of new committee members had be recruited and a draft Report was hoped for by the end of the year.

It appears that the made problem is that of the lighting for the helideck, and that there were many other aspects of lighting to be considered that could form the basis of the 1<sup>st</sup> Draft Report. The Chairman would therefore be asked to confirm that such a Draft Report be produced by the next meeting in September 2002. If the helideck lighting was still a problem, then it was suggested that Division 4 might be interested in taking this aspect on.

**ACTION: HH Bjorset**

### **TC 5-11 "Practical Design Guidelines for Sports Lighting Installations for Television and Filming" (G van Den Beld)**

Unfortunately the new Chairman had not been able to progress this Report. It was therefore suggested and voted on, that the Divisional Director take over this work, which only requires minor modifications, and get the Report out to voting, hopefully before the end of 2001.

**ACTION: D.D.**

### **TC 5-12 "Obtrusive Light" (N E Pollard)**

18 persons had attended the meeting on the 10<sup>th</sup> September of which 4 were TC members.

Draft 6A was discussed of which the main topic of concern were the values relevant to the upward light ratio (ULR) with regard to the light pollution of the night sky.

Earlier in the day a meeting of TC 4.21 (Interference by Light of Astronomical Observations) had suggested that this committee should simply refer to CIE Pub.126 for its values. This way forward was put to the membership of TC 5.12.and agreed. A number of



other minor items of concern were discussed which would be investigated. Once these had been addressed, which the chairman would hopefully do within the next two months, the final Report for a TC vote would be sent out by the end of the year, with the Divisional Vote taking place early in 2002. (An informal vote on the document was 4/1 in favour)

**ACTION: NE Pollard/TC**

**TC 5-13 “CIE / ISO Standard for the Lighting of Exterior Working Areas”  
(J Horvath)**

The turning of this document into an ISO standard has not progressed due to concerns in CEN that it is not in a suitable format. This is being examined and should be sorted out soon. However, of more concern is the view of the UK voting member in CEN that to define a maximum value of illuminance through the Uniformity ratio is unacceptable. This appears to be a single view of an individual and not one held by other UK members of CIE. With concerns of energy / environmental aspects of over lighting, the UK member offered to look into this matter.

**ACTION: NE Pollard**

**TC 5-14 “Maintenance of Outdoor Lighting Systems” (N E Pollard)**

11 persons had attended the meeting on the 10<sup>th</sup> September of which 4 were TC members.

The latest draft (5A) was examined and with some agreed modifications and additional sections to be written, it was agreed that the next draft be regarded as the final of TC voting. It was hoped that this would be sent round to TC members before the end of 2001, with the formal Divisional vote called for early in 2002.

**ACTION: NE Pollard/TC**

**TC 5-15 “Tolerances in Lighting Design” (Dr W. Julian)**

Discussions with the chairman, Dr Warren Julian confirmed that a Publication was available that could be used as a Draft Report and this would be sent to the Division within the next few months.

**ACTION: Dr Julian/Sec**

**TC 5-16 “Exterior Security Lighting of Private Properties” (P.Schwarcz)**

Unfortunately, progress had not been as good as originally hoped. The second meeting of this committee had been held the previous day at which the 1<sup>st</sup> Draft had been discussed. A link with Division 4 had been established and the standards required for CCTV were being investigated. It was planned to produce a 2nd Draft by December 2001.

**ACTION: P. Schwarcz/TC**

### **TC 5-17 “Standardisation Format for Sports Guide” (TM Lemons)**

A single page “Format” had been put together and agreed on the previous day. It was therefore proposed to close this committee and pass on the format style to TC 5.20,

#### Introduction

- 1 Scope
- 2 Definitions
- 3 Lighting requirements/principles
- 4 Lighting techniques
- 5 Lamps and luminaires
- 6 Installation and operation
- 7 Energy
- 8 Obtrusive light
- 9 Maintenance
- 10 Bibliography
- 11** Annex.

**ACTION: Passed to TC 5.20**

### **TC 5-18 “Practical Design Guidelines for the Lighting of Exterior Work Areas” (P K Bandyopadhyay)**

Unfortunately the TC had been unable to meet in Istanbul due to a last minute call for the Chairman to attend a meeting in China. The 1<sup>st</sup> Draft should be ready and circulated by the end of the year.

**ACTION: P. Bandyopadhyay/TC**

### **TC 5-19 “Emergency Lighting ” (Dr. B. Weis)**

Unfortunately the TC had been unable to meet in Istanbul although a constructive meeting had been held earlier in the year in Frankfurt and a 1<sup>st</sup> Draft produced. This Draft has split the subject into Safety Lighting and Standby Lighting. The former being further divided into Escape route, Open Area and High risk task area lighting.

**ACTION: B. Weis/TC**

### **TC 5-20 “Guide for Sports Lighting ” (T. Lemons)**

This new TC had its first meeting the previous day and had taken its format from that of TC 5.11. It was proposed to produce a 1<sup>st</sup> Draft within six months and following TC comments on this, a 2nd Draft for round table discussions at the next Divisional Meeting in Sept. 2002.

**ACTION: T. Lemons TC**

**TC 5-21 “City Beautification” (M. Serfhanoglu Sozen)**

(NB: This TC met following the Divisional Meeting, so this Report is a précis of that)

A substantial outline of a 1<sup>st</sup> Draft had been prepared by a sub-group of the TC based in Turkey, which was discussed, and views given. TC members were asked to comment on this and a number volunteered to draft sections for expanding the 1<sup>st</sup> main Draft that would be put together before the next meeting. It was hoped that these would be held at six monthly intervals, the next possibly in Budapest in April/May, followed by the September meeting of the Division in Turin.

**ACTION: M. Serfhanogulu Sozen/TC**

**7. REPORTERS’ REPORTS**

**R 5-05 “Semi-cylindrical Illuminance” (P Rombauts)**

A Report was still awaited and if not received by the next Meeting in September 20002, the Reportership would be closed.

**ACTION: P. Rombauts**

**R 5-07 “Review of CIE Pub. 83” (G. van den Beld)**

A report had been received by the Director suggesting that the Publication could be withdrawn as it was no longer useful. However, It was felt generally that this was not the case, and the Division, while thanking Mr van den Beld for his work, proposed that the Publication remain in print until reviewed by TC 5.20 following its current work programme.

It was agreed that this Reportership could be closed.

**ACTION: None**

**R 5-11 “Modelling in Sports Lighting” (T. Lemons)**

A Report had been produced that would be used by TC 5.20 and therefore this current Reportership could be closed.

**8. LIAISON OFFICERS’ REPORTS**

A Stockmar reported that the understanding between CEN and CIE was now better understood and that they were looking forward to the Reports of TC 5.11, 5.13, 5.14 and 5.19.

## 9. WORK PROGRAMME

- i) To be closed - TC's - TC 5.17  
Reporterships - R 5-07, R 5.11
- ii) New TC's: - None

## 10. ANY OTHER BUSINESS

Jacques Roberge (Canada) requested a list of TC members and that the Time Table for TC meetings be sent out earlier and have less overlaps.

The Secretary apologised for the lack of a list but would chase up TC Chairmen and attach a list to the Minutes of the meeting. With regard to the TC meetings, due to the CIE Mid Term Meeting and the International Lighting Congress both being held in Istanbul at the same time as the TC and Divisional Meetings, both time and space had not been ideal. However, it was agreed by all that for the joint Division 4 & 5 meetings a minimum of 3 days was required. (The current meeting had only allowed for 2 days).

## 11. DATE AND VENUE OF NEXT MEETING

The next Division 5 meeting would be held in **Turin, Italy** on Tuesday **1<sup>st</sup> October 2002**

# APPENDIX A - TC Committee Membership (Draft 10/01)

## TC 5-08 “Lighting of Off-shore Gas and Oil Structures”

*Terms of Reference:*

Hans-Henrik Bjorset (Norway)	Chair.
R. Askeland	Norway
R. Cochran	United Kingdom
J. Roberge	Canada
G. Sylte	Norway
+ ?	

## TC 5-11 “Practical Design Guidelines for Sports Lighting Installations for Television and Filming”

*Terms of Reference:*

Gerrit van Den Beld (The Netherlands)	Chair
L. Di Fraia	Italy
J. Horvath	Hungary
J. E. Jerleke	Sweden
J. Lecocq	France
T. Lemons	USA
A. Stockmar	Germany
+ ?	

## TC 5-12 “Obtrusive Light”

*Terms of Reference: To study the effects of obtrusive light from exterior lighting and to prepare a Technical Report that gives measures to describe the effects, restricting values for these measures, and measuring methods.*

Nigel Pollard (United Kingdom)	Chair
Wout van Bommel	Netherlands
D. Crawford	USA
J. Diaz Castro	Spain
K. Eberbach	Germany

T. Iizuka	Japan (1993-9)
A. Mori	Japan (1999-)
J. Roberge	Canada
R. S. Yates	South Africa

**TC 5-13 “CIE / ISO Standard for the Lighting of Exterior Working Areas”**

*Terms of Reference:*

Josef Horvath (Hungary)	Chair
J.H. Audestad	Norway
P. Bandyopadhyay	India
R. S. Beckford	USA
D. Coatham	United Kingdom
T. Deri	Hungary
B. Prejac	Slovenia
P. Pylvanainen	Finland
Peter Schwarcz	Hungary
G. Quere	France
J. Roberge	Canada

**TC 5-14 “Maintenance of Outdoor Lighting Systems”**

*Terms of Reference: To produce a Technical Report according to the format of Publication CIE 97-1992, describing the parameters influencing the depreciation process and the procedure for estimating the maintenance factor for outdoor lighting systems, Also to provide information on the selection of equipment, estimation of economic maintenance cycles and advice on service techniques.*

Nigel Pollard (United Kingdom)	Chair
P Chan	Hong Kong
P Rombauts	Belgique
L. di Fraia	Italia
K Iizuka	Japan
S Lain	United Kingdom
C A Oerkvitz	USA
J Roberge	Canada
A Stockmar	Germany
P Szilas	Hungary
N Tharyani	India
R Yates	South Africa

### **TC 5-15 “Tolerances in Lighting Design”**

*Terms of Reference:*

Dr Warren Julian (Australia)                      Chair

?

### **TC 5-16 “Exterior Security Lighting of Private Properties”**

*Terms of Reference: To prepare a guide giving recommendations on lighting designed primarily to improve security of homes, industrial and commercial properties and working areas, and serving as an additional guide to existing ones on exterior lighting. The guide shall exclude security aspects of public lighting ( to avoid parallel work with Division 4 covering the same topic) and lighting of high security areas (military, nuclear areas, prisons), which topic is complex enough to have its own guide.*

Peter Schwarcz (Hungary)                      Chair

J.H. Audestad	Norway
P. Bandyopadhyay	India
W. van Bommel	The Netherlands
D. Culley	South Africa
K. Kawakami	Japan
A Orgulan	Slovenia
J. L. Pimenta Pinheiro	Brazil
Mr Paulin	USA
J. Roberge	Canada
R. San Martin	Spain

### **TC 5-18 “Practical Design Guidelines for the Lighting of Exterior Work Areas”**

*Terms of Reference: To produce an “applications” guide for exterior work areas that compliments Publication CIE 126-1998, by updating where necessary the relevant portions of the withdrawn publication CIE 68.*

Pranab Bandyopadhyay (India)                      Chair

R. Beckford	USA
D. Coatham	United Kingdom
M. Lasinski	Poland
P. Schwarcz	Hungary

+ ?

### **TC 5-19 “Emergency Lighting” (Dr. B. Weis)**

*Terms of Reference: The Standard specifies the lighting requirements for emergency lighting systems installed in premises or locations where such systems are required. It is principally applicable to locations where the public have access.*

Dr. B Weis (Germany)	Chair
J. Audestad	Norway
P. Bandyopadhyay	India
E. Bistricky	Austria
W. Buckson	USA
P. Chan	Hong Kong
P. Joye	Switzerland
H. Juslen	Finland
K. Kawakami	Japan
J. Lecocq	France
J. L. Pimenta Pinheiro	Brazil
J. Roberge	Canada
P. Rombauts	Belgium
Ruschenschmidt	Germany
A.Tanaka	Japan
N.Vassilev,	Bulgaria
C. Watts	United Kingdom
A. Willing	Germany
J. Wild	Poland

### **TC 5-20 “Guide for Sports Lighting” (T.Lemons)**

*Terms of Reference: To prepare a Guide for Sports Lighting that excludes lighting for TV and film. This guide will replace the present publications CIE 42-1978, CIE 57-1983, CIE 58-1983 and CIE 62-1984.*

Tom Lemons (USA)	Chair
J. Audestad	Norway
K. Austin	United Kingdom
A. Bartsev	Russia
E. C. Burini Jr.	Brazil
J. Horvath	Hungary
H. Juslem	Finland
K. Kawakami	Japan
J. Lecocq	France
G. Major	Hungary
E. Manzano	Argentina
J. Roberge	Canada



C. G. (Remco) Spiering	Netherlands
K. Takuma	Japan
A. Valero-Serios	Spain

**TC 5-21 “City Beautification” (M. Serfhanoglu Sozen)**

*Terms of Reference: To prepare a Guide for City Beautification. The Guide shall be used wherever designing new or renewed creative lighting for city beautification. The Guide includes an integrated approach, which takes into consideration functional lighting, floodlighting, decorative lighting and considers function, aesthetic and emotional aspects of lighting design.*

Murgan Serfhanoglu Sozen (Turkey)	Chair
-----------------------------------	-------

P. Baldrey	United Kingdom
P. Bandyopadhyay	India
T. Bostanci	Turkey
D.L.Crawford	USA
M.L.Crawford	USA
J. Horvath	Hungary
N. Ilgurel	Turkey
H. Juslen	Finland
K. Kawakami	Japan
A. Korobko	Russia
P.G.Leger	France
G. Major	Hungary
J. L. Pimenta Pinheiro	Brazil
N. E. Pollard	United Kingdom
P Rombauts	Belgique
P Schwarcz	Hungary
A.V.Seros	Spain
K. Toyotome	Japan
J. Wild	Poland
Z.Yenen	Turkey

# 2001/2002 ANNUAL REPORT CIE DIVISION 5

September 2000-September 2001

Director: Dr. József Horváth

## 1. GENERAL

The terms of reference of Division 5 are: "To study procedures and prepare guides for the lighting for exterior working areas, security lighting, floodlighting, pedestrian and other urban areas without motorised traffic, areas for sports (indoor and outdoor facilities) and recreation and for mine lighting".

### On the basis of that Division 5 deals with:

Exterior security lighting;  
Sports lighting;  
Lighting for Off-Shore structures;  
Restriction of obtrusive light;  
Tolerances in lighting;  
Maintenance of outdoor lighting systems;  
Security and Emergency Lighting in exterior  
Glare in indoor sports  
City beautification

### The officers of Division 5 are:

Division Director: Dr. J. Horváth (H)  
Division Secretary: N. Pollard (GB)  
Division Editor: P.K. Bandyopadhyay (India)  
Liaison officer: A. Stockmar (D)

### The present Technical Committee structure is:

- TC 5-08** Lighting for Off-Shore gas and oil structures  
Chairman: H.H. Björset (Norway)
- TC 5-11** Practical design guidelines for Sports Lighting installations for CTV  
Chairman: G. van den Beld (Netherlands)
- TC 5-12** Obtrusive light  
Chairman: N. Pollard (Great Britain)
- TC 5-13** CIE/ISO Standard for the Lighting of Exterior Working areas  
Chairman: J. Horváth (Hungary)
- TC 5-14** Maintenance of Outdoor Lighting systems  
Chairman: N. Pollard (Great Britain)

- TC 5-15** Tolerances in Lighting Design  
Chairman: W. Julian (Australia)
- TC 5-16** Exterior Security Lighting of Private Properties  
Chairman: P. Schwarcz (Hungary)
- TC 5-18** Practical Design Guidelines for the Lighting of Exterior Work Areas  
Chairman: P.K. Bandyopadhyay (India)
- TC 5-19** Emergency Lighting  
Chairman: B. Weis (Germany)
- TC 5-20** Guide for Sports Lighting  
Chairman: T. Lemons (U.S.A.)
- TC 5-21** City Beautification  
Chairman: Ms Serefhanoglu Sözen (Turkey)

**Reporting topics are:**

- R 5-05** Semicylindrical Illuminance (P. Rombauts)

## **2. MEETINGS**

In 2001, Division 5 had a Meeting in Istanbul (Turkey) on 11<sup>th</sup> of September 2001. We had also T.C. meetings the days before and after this Division Meeting in the same venue. (Feriye Cultural Center)

## **3. PROGRESS OF TECHNICAL WORK**

### **TC'S ACTIVITIES**

*TC 5-08 LIGHTING FOR OFF-SHORE GAS AND OIL STRUCTURES*  
*(H.H. Björset)*

There was no step ahead in the work of this committee. We have no new information about the activity or about a development of the report. The Division will be proposed to disband this Committee and close the subject without result.

*TC 5-11 PRACTICAL DESIGN GUIDELINES FOR SPORTS LIGHTING*  
*INSTALLATIONS FOR COLOUR TELEVISION*  
*(G. van den Beld)*

The guide being prepared by this TC will give practical advise on the realisation of the recommendations for sports lighting for colour television and filming laid down in CIE Publication No 83. The practical guidance here will reflect the best of

modern lighting design world-wide. The main body of the guide will be devoted to sections covering many individual sports where there may be colour television or film coverage under artificial lighting. The final draft was circulated to the Committee.

Unfortunately we have no information and no answer from the Chairman for some year.

#### TC 5-12 OBTRUSIVE LIGHT

(N. Pollard)

The terms of reference of this committee are: " To study the effects of obtrusive light from exterior lighting to residents and traffic; and to prepare a Technical Report that gives measure(s) to describe the effect(s), restricting values for these measures, and measuring methods; excluding the problem for astronomers." The Chairman of the Committee has produced the final Drafts and distributed to TC members to vote. Hopefully the voting procedure will be finished by the time of our Meeting in Torino.

#### TC 5-13 CIE/ISO STANDARD FOR THE LIGHTING OF EXTERIOR WORKING AREAS

(J. Horváth)

Originally this Committee was formed to prepare a CIE/ISO Standard.

The work is finished and the document was edited like a Technical Report C.I.E. Publication No. 129-1998 under title:

“Guide for Lighting Exterior Work Areas”.

After that in Barcelona’s Division Meeting the TC was disbanded.

Some remarks were arrived by the Division members, why it was not a “Standard”.

The Chairman has asked the help of Board of Directors and Secretariat to transform the Guide to a Standard. During July, 2000 the Chairman has received a proposal with orientations and directions how to modify text. The work is on a shortening of text was finished and we distributed it to the members of formal TC for voting.

Also we had Meeting with the CEN responsible people (discussing how to continue together to active a CIE/ISO/CEN common standard.

#### TC 5-14 MAINTENANCE OF OUTDOOR LIGHTING SYSTEMS

(N. Pollard)

This committee is producing a Technical Report describing the parameters influencing the depreciation process and the procedure for estimating the maintenance factor for outdoor lighting systems. The 5<sup>th</sup> draft report is available and includes maintenance of columns, luminaries maintenance factors and definitions of pollution categories.

The publication is in advanced stage.

TC 5-15 TOLERANCES IN LIGHTING DESIGN AND MEASUREMENT

(W. Julian)

This committee was established in 1994. The past Chairman Mr. Fisher has retired and happily we found a new Chairman Mr. W. Julian.

There has been little input from committee members so far, so that a 1<sup>st</sup> Draft could not be prepared. An Australian standard is available yet. The T.C. was completed with new members during Division 5 Meeting, Warsaw. Hopefully the new chairman will be capable to create the 1<sup>st</sup> Draft for discussion with help of TC members.

The Draft is awaited from the new Chairman.

TC 5-16 EXTERIOR SECURITY LIGHTING OF PRIVATE PROPERTIES

(P. Schwarcz)

The term of reference of this TC is: "Guide gives recommendations of lighting designed primarily to improve security of homes, industrial, commercial properties and working area. It can serve as an additional guide to existing ones of exterior lighting. It excludes security aspects of public lighting and lighting of high security areas (military, nuclear areas, prisons) which topic is complex enough to have its own guide".

The 1<sup>st</sup> Draft is ready and was distributed to TC members.

TC 5-17 STANDARDISATION FORMAT FOR SPORTS GUIDE

(T. Lemons)

At the 1999 Warsaw meeting a First Draft outline of a Standardisation Format for Sports Guide was distributed with a request for comments. Comments have been received and a modified "Format" had been put together and agreed.

The Meeting have closed this Committee and pass on to TC 5-20.

TC 5-18 PRACTICAL DESIGN GUIDELINES FOR THE LIGHTING OF EXTERIOR WORK AREAS

(P.K. Bandyopadhyay)

The terms of Reference of TC is: "To produce an "applications" guide for exterior work areas that compliments Pub. 129-1998, by updating where necessary the relevant portions of the withdrawn C.I.E. Publication 68."

The table of Contents is ready and the work has began The 1<sup>st</sup> Draft is awaiting.

### TC 5-19 EMERGENCY LIGHTING

(B. Weis)

The terms of Reference of this new TC is: “The Standard to specify the luminous requirements for emergency lighting systems installed in premises or locations where such systems are required. It is principally applicable to locations where the public or workers have access.”

Collecting membership and technical contents of the Standard are completed. The work has just began.

The Chairman has had contact with LUMEX-IEC.

### TC 5-20 GUIDE FOR SPORTS LIGHTING

(T. Lemons)

This TC was formed in Division Meeting in Toronto, September 2000.

The terms of reference is to prepare a Guide for Sports Lighting that excludes lighting for TV and film. This guide will replace the present publications: CIE 42,45,57,58 and 62.

A number of members showed interest in working on this TC and the chairman collected a list of names that he would notify of the next step. The Committee will use “Format” developed by T.C. 5-17.

There was accordingly a large vote in favour of setting up the Committee.

The work has just began.

### TC 5-21 CITY BEAUTIFICATION

(Ms M. Serefhanoglu-Sozen)

On the basis of a report of the new chairman the Division Meeting in Toronto September 2001 has decided to form this new TC.

Terms of reference:

To prepare a Guide for „City Beautification”. The Guide shall be used whenever designing new or renewed creative lighting for city beautification. The Guide includes an integrated approach which takes into consideration functional lighting, floodlighting, decorative lighting and considers functional, aesthetic and emotional aspects of lighting design.

A large number of members showed interest in working on this TC and the chairwoman collected a long list of names that she would notify of the next step.

There was accordingly a large vote in favour of setting up the Committee.

The work has just begun.

#### **4. LIAISON MATTERS**

The Liaison Officer Mr A. Stockmar is keeping continuously the contact with CEN.

#### **5. ACKNOWLEDGEMENT**

I express my thanks for the help, spending time, energy and enthusiastic volunteer works to every members of Division and TC-s.

Budapest, September 2002.

Dr. József Horváth  
Division Director



COMMISSION INTERNATIONALE DE L'ÉCLAIRAGE  
INTERNATIONAL COMMISSION ON ILLUMINATION  
INTERNATIONALE BELEUCHTUNGSKOMMISSION

Canadian National Committee    Comité National Canadien



---

**Canadian Division Members' Reports**

**CNC/CIE 47th Annual Meeting**

2002-October-05

**CIE Division 6**

**Photobiology and Photochemistry**



**CIE Division 6 "Photobiology and Photochemistry"**  
**Report to the Canadian National Committee**  
**October 5, 2002**

Yvon Deslauriers  
Consumer and Clinical Radiation Protection Bureau  
Health Canada  
6301B, 775 Brookfield Road  
Ottawa, ON K1A 1C1

Phone: (613) 954-0303  
Fax: (613) 941-1734  
E-mail: yvon\_deslauriers@hc-sc.gc.ca

## 1. Introduction

The CIE Division 6 "Photobiology and Photochemistry" had not had its annual meeting at the time this report was written.

The Division Terms of Reference are to study and evaluate the effects of optical radiation on biological and photochemical systems

Director:	Dr. D. H. Sliney, US
Assistant director:	Dr. J.-P. Césarini, FR
Secretary:	Dr. A. Thompson, US
Editor:	Dr. M. L. Wolbarsht, US

Members: There are thirty country members.

## 2. Active Technical Committees

**TC 6-08 Guidelines for Obtaining Action Spectra.** Definitions (detector, effective radiant quantities, responsivity, spectral responsivity, action spectra, threshold radiant exposure, threshold exposure period). Bunsen-Roscoe law; type of detectors; general relation between effect and irradiation; principles of obtaining action spectra; monochromatic irradiation; sources (random parameters); measurement of irradiance on the detector; measurement of the effect of irradiation. Chair: Dieter Kockott (Germany).

**TC 6-11 Systemic Effects of Optical Radiation on the Human.** To provide the CIE with a concise, summary document on the systemic effects of ocularly detected optical radiation with relevant, key scientific references. Specifically the document will introduce the controlled laboratory and clinical studies on the effects of light on human physiology, mood and behaviour. Studies on use of light therapy (ocular exposure) for clinical disorders as well as for improving human adaptation to shift work and intercontinental jet travel will be discussed. How these new findings may change future architectural lighting strategies will be considered. This document will be cross-referenced to the report from CIE "Psychological aspects of lighting" (TC 3-16), 6-16 and 6-17. Chair: Jennifer Veitch (Canada).

**TC 6-14 The "Blue Light" Hazard (BLH).** Summarise and evaluate action spectrum and threshold of BLH for the human eye. To investigate and recommend a practical protecting measure for the BLH. Chair: Kohtaro Kohmoto (Japan).

**TC 6-15 A Computerised Approach to Reflection, Transmission and Absorption Characteristics of the Human Eye.** Design a working model, for the assessment of the actual amount of radiation reaching various eye structures. Chair: David J. Lund (USA).

**TC 6-20 Phototoxicity in Domestic and Industrial Environments.** To collate information on the production and use of new substances representing potential phototoxic, photoallergic, photo carcinogenic hazard. They may be present in the working environment as powders, sprays, emulsions, and, in general, as polluting factors, or they may be administered as medicaments. The assessment of their effects needs careful consideration and may have implications on the actinic effectiveness of sources, as related, for instance, to lighting in hospitals. Chair: Jean Pierre Cesarini (France).

**TC 6-21 Low Level UV-A Cataract.** To inform the lighting engineers about the basic facts concerning eyelens cataract and, in particular, the role of exposure to the UV radiation. Particular emphasis is to be given to the controversies concerning the effects of day-after-day accumulation of small UV-A radiant exposures. Chair: David H. Sliney (USA).

**TC 6-23 Develop Generalised Action Spectra for Plant Responses to Wavebands from 280 to 1100 nm.** Extending information published in CIE-Journal by TC 605. Obtaining agreement on generalised (or normalised) action spectra for photosynthesis, photochromism, blue light photomorphogenic responses and other receptor responses in plants. Developing specific narrow band and broad band sensors for each of these responses. Chair: Donald T. Krizek (USA).

**TC 6-24 Sunscreen and UVA.** In view of the importance of UVA (in matter of skin premature ageing, skin carcinogenesis, immune local or systematic depression), and because of lack of existing regulations to test for UVA protection, it is proposed to extend the work of TC 6-12 (concerning UVB protection) on high protection factor (SPF) sunscreens. The goal is to arrive at an international consensus on sunscreen testing for UVA protection. Chair: Jean Pierre Cesarini (France).

**TC 6-25 The Conventional Solar Day Weighted by UV Action Spectra.** The model data published in the CIE 85-1989 document "Solar Spectral Irradiance" are convoluted with five enveloped action spectra on various effects of relevance. A comparison is also made between CIE 85-1989 data and another empirical model. Chair: Stephen Wengraitis (USA).

**TC 6-28 Standardisation of Sunscreen Testing: Method for UV-A sunscreen testing.** To develop standardised specifications for the spectral distribution of light sources used in testing sunscreens based upon the report of TC 6-12 as CIE Publication 90. Chair: Jean Pierre Cesarini (France). (This TC is working on a standard.)

**TC 6-29 UV Protective Index for Clothing.** To develop standardised methods to measure the sun protective factor of fabrics based upon realistic exposure conditions (e.g. wet and dry states). Chair: Peter Gies (Australia).

**TC 6-31 Immediate Pigment Darkening.** To develop a standardised action spectrum for IPD (after a review of contrasting published results of testing for immediate pigment darkening). Chair: Jean Pierre Cesarini (France). (This TC is working on a standard.)

**TC 6-32 Action Spectrum for Photocarcinogenesis and Connective Tissue Damage.** To develop a standardised action spectra for photocarcinogenesis and connective tissue damage. Chair: Paul Donald Forbes (USA). (This TC is working on a standard.)

**TC 6-33 Photoimmunological Effects Mediated through the Skin.** To prepare a report on the current state of knowledge regarding the effects of UVR photo immunology aimed for the lighting engineering community. Chair: E. C. de Fabo (USA).

**TC 6-35 UVR Disinfection.** To review the current status of UVR disinfection of air. This is now of great interest in locations where a new drug-resistant strain of tuberculosis has appeared. Chair: Richard L. Vincent (USA).

**TC 6-36 UVR Protective Materials Used in Shading.** To investigate the properties of materials, such as tent or awning fabrics used in solar UVR shading devices, and develop standardised methods for the testing fabrics other than clothing that are used for UVR protection. Chair: Natasha van Tonder (South Africa).

**TC 6-37 Light and Retinal Disease.** To prepare a report on the current state of knowledge regarding the alleged effects of light exposure as an etiologic factor in retinal disease. The report should be written to be understood by the lighting engineering community. Chair: David H. Sliney (USA).

**TC 6-39 UV Radiation at Lighted Environments.** To develop an evaluation method of UV radiation at lighted environments. To investigate UV spectral characteristics of filters and reflectors used for luminances, and interior environment. Chair: Kohtaro Kohmoto (Japan).

**TC 6-41 A Standardised UV-Index.** To review current UV indices and to recommend a standardised method for deriving a UV index, if this is feasible, based upon the WMO recommendations. Chair: E. C. Weatherhead (USA).

**TC 6-42 Lighting Aspects for Plant Growth in Controlled Environments.** To define the general prerequisites for growing terrestrial plants in controlled environments and the characteristics of both commercial and research facilities. To discuss the economic constraints of commercial production facilities, and the critical optical radiation parameters for successful culture. To examine the interaction of optical radiation with other environmental parameters. To identify new and current optical sources suitable for plant culture. Chair: Harald Seidlitz (Germany).

**TC 6-43 UV Water Disinfection.** To examine the state of knowledge on UV water disinfection. Chair: Viney Jain (India).

**TC 6-44 Illuminators for Treatment of Infant Hyperbilirubinemia.** To examine the state of knowledge on infant hyperbilirubinemia, and recommend the formation of a standardised action spectrum for comparative evaluation of therapy lighting. Chair: Myron L. Wolbarsht (USA).

**TC 6-45 Optical Radiation Hazard Measurements in the Workspace.** To examine the methods of measurement and the required accuracy of field instruments and broad-band meters used to measure the optical radiation hazards in the workplace. Emphasis is on UV and blue light hazards. To develop approved (recommended) methods or measurement of UV, visible and IR in the workplace. Chair: R. Angelo (USA)

**TC 6-46 Standardised Action Spectrum for UV Disinfection.** To develop a standardised action spectrum for UV disinfection; DIN, US and other published action spectra are not consistent. Chair: Edward Nardell (USA)

**TC 6-47 Photobiological Lamp Safety Standard.** To develop a standard based on the report of TC 6-38. Chair: Rolf Bergman (USA). (This TC is working on a standard.)

**TC 6-48 Typical Minimal Erythema Doses.** To propose typical minimal erythema doses for different skin types, for use in the evaluation and revision of different standards for UV-emitting appliances and in educational efforts related to the risk of UV exposure. Chair: Janusz Z. Beer (USA).

**TC 6-49 Infrared Cataract.** To evaluate current biophysical data related to infrared and heat-induced Cataractogenesis and report on the potential mechanisms - both thermal and photochemical. Chair: Myron L. Wolbarsht (USA).

**TC 6-50 Photodegradation of Pharmaceuticals.** To report on the current knowledge related to the potential photodegradation of pharmaceuticals during storage and illumination by both sunlight and artificial illuminants. Chair: Joseph Piechocki (USA).

**TC 6-51 Standardised Solar Simulator Spectral Irradiance for Sunscreen Testing.** To provide a standardised solar simulator emission spectrum for testing sunscreens. Spectral tolerance values will be provided. Chair: Robert M. Sayre (USA). (This TC is working on a standard.)

**TC 6-52 Proper Measurement of Passive UV Air Disinfection Sources.** To specify the biologically meaningful measurement distances and positions in installations of UV germicidal lamps for open, upper-air disinfection. Physical aspects of the measurement will be co-ordinated with CIE Division 2. Chair: Richard Vincent (USA)

**TC 6-53 Personal Dosimetry for UV Radiation.** To update a previous report on UV personal dosimetry. Chair: Gerda Horneck (Germany)

**TC 6-54 Standardised Action Spectrum for Vitamin D Synthesis in Human Skin.** To evaluate the current state of knowledge in the photobiological action spectrum for general use in estimating effective exposures in humans of differing skin types. The Technical Committee will examine the impact of natural skin pigmentation, skin optics, and skin exposure area and describe the effective dose per unit of skin area that produces a given quantity of serum Vitamin D. The output will be a technical report and a standard. Chair: Michael F. Holick (USA)

### 3. Technical Committee News

Status reports from technical committees.

**6-08 Guidelines for Obtaining Action Spectra:** A new chair is sought for this TC. Please contact the Division Director if you wish to lead this effort. The former Chair, Dr. Dieter Kockott (Germany) sent the most current materials on this effort to DD6, so that they may be provided to the next chair of this TC. Erin Chaney has submitted some additional material on determining appropriate bandwidths for research studies.

**6-11 Systemic Neuroendocrine Effects of Optical Radiation on the Human:** Dr. Jennifer Veitch (Canada) reports that her TC met in Canada a few months ago and reached agreement on all key points. She is competing final editing on the document and balloting within the Division should occur during the summer.

**6-25 Spectral Weighting of Sunlight:** Stephen Wengraitis (US), chair, reports that TC's report has recently undergone much editing. He also stated that most TC members are in general agreement that the document is almost ready to be sent to CIE for review and for Division balloting.

**6-29 UV Protective Index for Clothing:** Peter Gies (Australia), chair reports that much editing and review has recently been performed for TC 6-29. The efforts of Drs. Kathryn Hatch (US) and Colin Driscoll (UK) were particularly extensive. Much information on current standards and references have been added, and the document's structure has also been improved. He is hopeful that the document will not require any future "substantial" revisions beyond this point, and after Division editing will be ready to be sent to CIE for Division balloting next month.

**6-31 Immediate Pigment Darkening:** Jean Pierre Cesarini (France), chair. The report should be in the finish stage.

**6-35 Present State of UV Disinfection:** Richard L. Vincent (USA), chair, reports that the document for TC 6-35 was recently revised to include protection for buildings from biological terror attacks. Extensive helpful comments have been received and are being incorporated into a new draft. This

report is expected to be sent to the CIE CB for circulation to the Division for balloting.

**6-37 Light and Retinal Disease:** Dave Sliney (US), chair, has recently sent this document to experts for review and material update. The contributions of Prof. Joan Roberts (US) and Maria Ines de Wilde are of particular note.

**6-39 UV Radiation in Lighted Environments:** Kohtaro Kohmoto (Japan), chair, reports that the current draft was discussed at the 2001 Istanbul meeting. Manners and Wengraitis have recently performed language editing and the document is also nearing completion for Division balloting.

**6-43 UV Water Disinfection:** Dr. Alexander Cabaj (Austria) is the new chair of this TC. This subject has received increased interest recently with concerns about contamination of water supplies by biological contaminants.

**6-45 Optical Radiation Hazard Measurements in the Workplace:** Robert Angelo (US), chair, recently met with Dr. Sliney and an updated draft was prepared. The draft should be ready soon for circulation to the TC.

**6-46 Proper Measurement of Passive UV Air Disinfection Sources.** Edward Nardell (USA), chair. The report should be in the finish stage.

**6-48 Typical Minimal Erythematol Doses.** Janusz Z. Beer (USA) chair, still collecting data for use in sunbed standards and related standards.

#### 4. Proposals for New TC's and Reporterships.

*Action Spectra*

*Dosimetry of Light Therapy*

*Photobiological Requirements for Broad-Band Solar UV Radiometers*

*Biologically Relevant Source Terms for Outdoor Sunlight Exposure*

*Potential Health Effects Related to Indoor Illumination*

#### 5. Completed Technical Committees and New Publications

A new issue of the *CIE Collection in Photobiology and photochemistry* (CIE Publication 138-2000) is now being published and this includes the four technical committee reports from:

- TC 6-14 on the Blue Light Hazard
- TC 6-32 on the Action Spectrum for Photocarcinogenesis
- TC 6-34 on the Testing Protocols for Photocarcinogenesis Safety

CIE Draft Standard DS 013 "International Standard Global UV Index" elaborated by TC 6-41, has been sent to Division and Board for ballot.

The draft CEE Standard on the Photobiological Safety of Lamps has been approved and is now being sent out to National Committees for voting.

The report "Action Spectroscopy of Skin with Tunable Lasers" was re-edited and reviewed by two outside experts and is now in preparation for publication as a CIE report. The reporter was Dr. Angelika Anders.

TC 6-25 on the Spectral Weighting of Sunlight, the report has been approved by the Board Administration of the CIE for study and application : Stephen Wengraitis (US), chair, reports that TC's report has recently undergone much editing. He also stated that most TC members are in general agreement that the document is almost ready to be sent to CIE for review and for Division balloting.

## **6. Reportership News**

According to Division 6 records, the currently active reporterships include:

- Actinic aspects of daylight utilisation indoor
- Actinic properties of sunlamps
- Lighting in fish farming
- Reflectance of natural materials
- EGG and vigilant reactivity
- Health-related institutions or buildings and radiant exposure
- Measurement of skin colour for clinically normal and certain pathological conditions
- UVR emitting car headlamps



COMMISSION INTERNATIONALE DE L'ÉCLAIRAGE  
INTERNATIONAL COMMISSION ON ILLUMINATION  
INTERNATIONALE BELEUCHTUNGSKOMMISSION

Canadian National Committee Comité National Canadien



---

**Canadian Division Members' Reports**

**CNC/CIE 47th Annual Meeting**

2002-October-05

**CIE Division 8**

**Image Technology**

# **The CIE Division 8 “Image Technology” and its Activities in 2001/2002**

**Report to the CNC-CIE, October 5, 2002**

Réjean Baribeau  
Institute for National Measurement Standards  
National Research Council Canada  
Ottawa, Ontario K1A 0R6

Phone: (613) 993-9351  
Fax (613) 952-1394  
E-mail: [rejean.baribeau@nrc.ca](mailto:rejean.baribeau@nrc.ca)

## **1- Introduction**

The CIE Division 8 “Image Technology” held an informal meeting during the IS&T/SID Color Imaging Conference in November 2001. The creation of new TCs was discussed and, so far, one new TC (Multispectral Imaging) has been approved by the Div. 8 members, with CIE Board of Administration approval pending. Details are given in Section 3. Another proposed TC, Methods for Conducting Psychophysical Tests, has not been balloted to the members yet.

Division 8 issued its first activity report in March 2002. Much of the information reported here is taken from that document. People interested in more technical details are encouraged to refer to it. It is available either from the Div. 8 secretary or me.

The next Division 8 formal meeting will be held in conjunction with the CIE Quadrennial Meeting, 25 June-2 July 2003, in San Diego, U.S.A. Meanwhile an informal meeting will be arranged during the 10<sup>th</sup> IS&T/SID Color Imaging Conference in Scottsdale (Arizona) in November 2002.

## **2- Organization**

Terms of Reference:

To study procedures and prepare guides and standards for the optical, visual and metrological aspects of the communication, processing, and reproduction of images, using all types of analogue and digital imaging devices, storage media and imaging media.

Domain d'activité:

Etudier les méthodes et préparer des recommandations et des normes, relative aux aspects optiques, visuels et métrologiques de la communication, du traitement et de la reproduction des images, applicables à tous les types de dispositifs d'acquisition, de conservation et de restitution, aussi bien analogiques que numériques.

Web site: <http://www.color.org/>

A moderated Divisional email list exist and is intended to reach all those who actively participate in Division 8 of the CIE: Division officers, Division members, and TC members. It can be reached by mailing to [ciedivision8-L@vivid.colour.org](mailto:ciedivision8-L@vivid.colour.org).



## **2.1 Division Officers**

Director of Division	Todd Newman
Associate Directors	Dr. Noboru Ohta (reporters)
Secretary of Division	David McDowell
Editor of Division	Dr. Mike Pointer

## **2.2 Official Division Members**

CIE Division 8 has 36 member countries, of which 19 have designated representative. Canadian Member: Réjean Baribeau

## **2.3 Liaisons**

CIE Division 8 has liaisons with the following organizations and liaison officers:

CIE Division 1 (Michael Pointer)  
CIE Division 2 (Y. Ohno)  
AIC - Association Internationale de la Couleur  
ISO/TC36: Cinematography  
ISO/TC38/SC1: Textiles: Colour Fastness & Measurement  
ISC/TC42: Photography (Mike Pointer)  
ISO/TC61/SC5/WG1:  
ISO/TC159/SC4/WG2: Ergonomics/Sign & Contr/VDU Requirements  
ISO/TC187: Colour Notations  
ISO/TC6/WG3: Paper Board and Pulp - Optical Properties  
ISO/TC130: Graphic Technology(Danny Rich)  
ISO/IEC/JTAG2:Joint Technical Advisory Group (JTAG) 2 for Imagery(Tim Kohler)  
ICC -- International Colour Consortium (Tim Kohler)  
CCPR - Comité Consultatif de Photométrie et Radiométrie,  
BIPM  
IEC/TC100 Multimedia Equipment and (Danny Rich)  
ASTM/E12 Color and Appearance (Mike Pointer)

## **2.4 Publications from Division 8**

None.

## **2.5 Technical Reports**

None.

## **2.6 Technical Committees**

TC8-01: Colour Appearance Modeling for Colour Management Applications  
TC8-02: Colour Difference Evaluation in Images  
TC8-03: Gamut Mapping  
TC8-04: Adaptation under Mixed Illumination Conditions  
TC8-05: Communication of Colour Information  
TC8-06: Image Technology Vocabulary

## **2.7 Reporterships**

R8-01 Reportership on Grading of Color Measurement Equipment (Y. Ohno)  
R8-02 Reportership of Fluorescence (C. McCamy) –closed.

R8-03 Reportership on Potential CIE and IEC/TC100/PT61966 Interactions (H. Ikeda)  
R9-04 Reportership on the Effects of Fluorescence in the Characterization of Imaging Media. (D. Rich)

## **2.8 Activity Reports**

The following activity reports are available in electronic format at the CIE Division 8 Web site:

Report from 29 September 1998 Division meeting  
Divisional Status report prepared for 24th Session of the CIE  
Report from 28 June 1999 Division meeting  
Attendees at the 28 June 1999 Division meeting  
Minutes of 10 April 2000 Division meeting  
2001 Activity Report

## **3- Technical Committees work in progress**

### **TC8-01: Colour Appearance Modeling for Colour Management Applications**

Terms of Reference:

To study, develop, and recommend a colour appearance model based on CIECAM97s for use in digital colour management and to develop clear usage guidelines for common applications. Consideration is to be given to colour and engineering requirements for open colour management systems.

Chair: Nathan Moroney

Web site: <http://www.colour.org/tc8-01/>

After many months of hard work a single set of CIECAM97s revisions were introduced at the 10th IS&T/SID Color Imaging Conference. This model, named CIECAM02, is covered in two separate papers: N. Moroney, M.D. Fairchild, R.W.G Hunt, C. Li, M.R. Luo, and T. Newman, "The CIECAM02 Color Appearance Model", C. Li, M.D. Fairchild, R.W.G Hunt, M.R. Luo, and N. Moroney, T. Newman, "The Performance of CIECAM02". There was still no consensus on the linear chromatic adaptation transform to use and a sub-committee has been created to reach some sort of compromise on this as well as on the non-linear post adaptation response compression.

There is abundant literature available from the Web site: slides, notes, published papers, guidelines, links etc.

### **TC8-02: Colour Difference Evaluation in Images**

Terms of Reference:

To study, develop and standardize methods to derive colour differences for images.

Chair: Ronnier Luo

Web site: <http://www.colour.org/tc8-02/>

Version 5 of the draft technical report has been distributed in December 2001 for revision by the TC members. The report is only intended to include all possible methods for evaluating colour differences for colour patches and images. The TC continues to generate test images, to perform psychophysical experiments in different sites, and to evaluate the performance of various methods.

### **TC8-03: Gamut Mapping**

Terms of Reference:

To study, develop and recommend an optimal solution for cross-device and cross-media image reproduction. This solution will provide a standard procedure to calculate the colour gamut of an image, an imaging system, or its components, and either one algorithm, or a set of algorithms and rules for use in specific applications.

Chair: Jan Morovic

Web site: <http://www.colour.org/tc8-03/>

In short, the work program of this TC is:

- To review current Gamut Mapping Algorithms (GMAs).
- To provide guidelines for the evaluation of GMAs.
- To review results of GMA evaluation.
- To recommend a standard GMA, or a small number of GMAs with rules for deciding which one to use.

TC8-03 physically met during the IS&T/SID Color Imaging Conference in Nov. 2001. The bulk of the discussion focused on four unresolved issues in the guidelines for the evaluation of GMAs, in particular how the print and transparency of the obligatory test image will be produced, and details about the experimental data analysis and reporting. In addition to this, the publication of GMA source code and the provision of test images were also discussed. There was no response to the question of who of the TC members will participate in the experimental work. Minutes from that meeting (tc8-03\_08-11-2001) are available from the Web site.

Fujifilm Electronics Imaging Limited (UK) has made available the image that is specified as mandatory in the guidelines. Canon and Sony have contributed additional test images.

The survey of GMAs has been completed and a document *Survey of Gamut Mapping Algorithms* has been accepted for publication in the Journal of IS&T. A draft of it can be downloaded as a PDF file, and extracts in HTML format are available as well.

This TC plans to publish the complete Guidelines and commence coordinated research based on the Guidelines.

### **TC8-04: Adaptation under Mixed Illumination Conditions**

Terms of Reference:

To investigate the state of adaptation of the visual system when comparing soft-copy images on self-luminous displays and hard copy images viewed under various ambient lighting conditions.

Chair: Naoya Katoh

Web site: <http://www.colour.org/tc8-04/>

The work program of this TC is:

- Survey past relevant works
- Share a standard method and guideline for cross-examination
- Perform cross-examinations at different laboratories
- Publish a Report

A survey of relevant work (authors, titles, and, for some, abstracts) has been made available on the Web site.

The basic idea for the cross-examination is to show to test observers some soft copies and hard copies side by side and to find the percentage of adaptation between the two underlying illuminants for the best match. A related issue is the determination of the adapted white point (AWP) for a single media. It is agreed that CIECAM97s2 model is to be used by the members in future experiments on AWP determination. An Excel implementation of CIECAM97s2 is available on the Web site. Images have been made available for the testing and are available in sRGB format from the Web site. The committee wants to use the F11 as standard fluorescent.

In year 2001, Sreeprasan (UK) and Katoh (JP) has performed the experiments according to the TC's experimental guidelines, which was completed in year 2000. The results of two different laboratories showed a fair accordance in mixed adaptation ratio (ie 40-60%). This result is also in accordance with the past results of Katoh, Berns and Choh (US), and Shiraiwa et al. (JP). It was also discussed which CAT (chromatic adaptation transform) matrix should be incorporated into mixed adaptation model. In the mean time, the choice of CAT is now being discussed in the TC8-01. From compatibility point of view, it was agreed that TC8-04 should follow the TC8-01's recommendation, since the difference being discussed are very subtle. With these results, it was agreed that TC should prepare a draft technical report for revision and discussion in Nov. 2002.

### **TC8-05: Communication of Colour Information**

Terms of Reference:

To standardize a minimal set of techniques that enable unambiguous and efficient communication of the colour information in images. Two fundamental approaches will be addressed:

- The association with the image data of additional data that describes the colour space of the image data.
- The representation of the image data in a standard colour space.

The standard will also define a minimal set of standard colour spaces that addresses a wide range of imaging applications. Whenever possible, existing standard colour spaces will be used in preference to creating new ones.

Chair: Rob Buckley

Web site: <http://www.colour.org/tc8-05/>

The desire of this TC is to prepare a technical report to be drafted into a joint standard with ISO/IEC. The program of work covers three areas: Terminology, Procedures for evaluation of colour spaces, and Methods of analysis of evaluation data. Task groups are associated with each of those and are led by M. Pointer, K. Spaulding and R. Buckley respectively. A draft report on terminology and a preliminary list of criteria for evaluating large-gamut colour encoding have been made available on the Web site.

The last TC meeting was held in Nov. 2001 in Scottsdale and Kevin Spaulding presented results on evaluating seven different colour spaces against the colour encoding criteria of: Colour Gamut Metrics, Quantization metrics, and Complexity of transforms. His report is available on the web site.

The next physical meeting is planned for Nov. 2002 in Scottsdale.

### **TC8-06: Image Technology Vocabulary**

Terms of Reference:

To liaise with TC7-06 (International Lighting Vocabulary) and collate definitions of terms associated with image technology.

Chair: Janos D. Schanda

Web site: <http://www.colour.org/tc8-06/>

The chairman has submitted parts of several terminology documents to members who are to collect terms and definitions and place them in a database. The plan is to consolidate the material through circulation to the members and feed-back to the Chairman. Unfortunately, there was no feedback from the TC members and the Chair has asked the Division Secretary to request that all TC Chairs submit relevant terms and definitions.

#### **TC8-“07”:** Multispectral Imaging (CIE approval pending)

Proposed Terms of Reference:

To study, develop, and recommend encoding techniques and data formats for the exchange of multispectral images, and to provide test procedures for the evaluation of multispectral imaging systems..

Proposed Chair: Dr. Patrick Herzog ( [P.Herzog@color-aixperts.de](mailto:P.Herzog@color-aixperts.de) )

When approved, this new TC is to cover the following subjects:

1. Spectral test sets
  - 1.1 data sets for simulation and testing,
  - 1.2 definition and fabrication of an experimental spectral test chart,
  - 1.3 test chart of pairs of metameric colors.
2. Definition of sets of color matching functions of typical human observers to be used in multispectral imaging systems for the definition of observer metamerism.
3. Encoding of multispectral image data
  - 3.1 linear encoding and quantization,
  - 3.2 nonlinear encoding and quantization,
  - 3.3 mixed spectral and spatial encoding.
4. Definition of data formats for the exchange of multispectral image data.
5. Recommendations for the definition of quality of a multispectral system and test procedures.

## **4- Reporterships**

### **R8-01 Reportership on Grading of Color Measurement Equipment**

(Y. Ohno)

Div. 8 members voted unanimously for the termination of this reportership, as it was felt that it had not resulted in any tangible results and, consequently, did not appear to be needed at this time.

### **R8-02 Reportership on Fluorescence**

C McCamy (USA)

Terms of Reference

To report annually on problems involving fluorescence in image technology, activities in the standards bodies and publications that bear on fluorescence problems, and to recommend the formation of a technical committee if such activity appears desirable.

This reportership is now closed.

### **R8-03 Reportership on potential CIE and IEC/TC100/PT61966 interactions**

H Ikeda (Japan)

Terms of Reference

To produce a report on how CIE Division 8 should interact with IEC TC100 PT61966. End Date: March 2000.

Div. 8 members voted unanimously for the termination to this reportership, as it was felt that it had not resulted in any tangible results and, consequently, did not appear to be needed at this time.

**R8-04 Reportership on the Effects of Fluorescence in the Characterization of Imaging Media.**

D. Rich (USA)

The reporter is to define the issues and report on what the terms of reference and working program should be for possibly a Division 2 TC.

***5- Outside Liaison Reports***

No report has been presented at the time of this writing.