



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

Canadian National Committee Comité National Canadien



MINUTES OF THE 41ST ANNUAL CNC/CIE MEETING

1996-November-08

The 41st annual meeting of the Canadian National Committee of the Commission Internationale de l'Éclairage (CNC/CIE) was held on Friday, November 08, 1996 at The Pulp and Paper Research Institute of Canada (PAPRICAN), 570 St. John's Boulevard, Pointe Claire, Québec.

1. Call-to-Order:

The meeting was called to order at 9:20 a.m. by J. Roberge, President. A video-conference link had been established between the meeting location at PAPRICAN and the Canadian Standards Association (CSA) in Etobicoke, Ontario. A tele-conference link was also established between the meeting location at PAPRICAN, CSA, and Thomy Nilsson at the University of Prince Edward Island (UPEI) in Charlottetown, PEI.

The attendees at all locations introduced themselves. Ten Members and Advisory Members were present at PAPRICAN, five at CSA, and one at UPEI. The list of all attendees is given in Appendix A. (K.F. Lin left the meeting during the lunch break due to other engagements.)

It was moved by J. Love, seconded by B. Kolesnik, that the agenda, as circulated by mail (Appendix B), be accepted. Passed.

2. Minutes of the 40th Annual CNC/CIE Meeting:

There were no matters arising from the minutes, other than that to be discussed later in agenda item 9.2. Moved by M.G. Bassett and seconded by J.C. Zwinkels that the minutes be accepted as circulated. Passed.

3. President's Report:

J. Roberge presented his report, enclosed as Appendix C.

4. Secretary / Treasurer's Report:

A.A. Gaertner presented his report, enclosed as Appendix D. He also requested that Division Members keep him informed of the Canadian members of technical committees, so that he can add them to the mailing list and offer them Advisory Membership as stated by our Code of Procedure.



5. Publications Report:

Since A.R. Robertson was unable to be present, A.A. Gaertner presented his report, enclosed as Appendix E. Discussion followed, particularly concerning the transfer of the responsibility of Publications Officer. K.F. Lin indicated that he was still willing to assume this position. He also indicated that he was willing to do the work on a voluntary basis as has been done by A.R. Robertson. It was also agreed that the stock of publications was to remain the property of the CNC/CIE. Further details of the transfer are to be discussed with A.R. Robertson. The question was then raised as to the transfer of the CNC/CIE bank account which is generally used for the financial transactions involved with the procurement and sale of the CIE publications. W.K. Adrian moved, seconded by J.A. Veitch, that the details of this be left to the executive and A.R. Robertson for resolution. Passed.

6. Reports from Division Members:

(Secretary's Notes:

- i. The CNC/CIE Division Members' Reports are attached as a separate document, i.e. they are not labelled with an Appendix number. This has been done to enable separate use of this information for those who wish only these reports, independent of the Minutes of the Annual Meeting.
- ii. The reports for Divisions 1, 2, and 6 had been mailed to all Members and Advisory Members prior to this meeting. J. Roberge had also FAXed the Division 5 report to all those indicating they would be attending this meeting.)

DIVISION 1

Vision and Colour

S.M. McFadden

S.M. McFadden presented her report. She indicated that she had not yet received the official minutes of the last Division 1 meeting. She noted that the Canadian involvement in the Divisional Technical Committees is about the same as last year. She has received information from P.K. Kaiser indicating that he is reducing his involvement in CIE activities. She pointed out the request she has received from J. Schanda (TC 1-33) for information concerning the spectral output of non-incandescent lamps. She also noted that IEC/TC 100 is concerned with colour measurements of CRT's and is using the World Wide Web (WWW) to exchange information.

DIVISION 2

Physical Measurement of Light and Radiation

J.C. Zwinkels

J.C. Zwinkels presented her report for Division 2. She pointed out that there are problems related to the difference in format between documents which are intended to become CIE Standards and those which are to be TC Reports. ISO Directive 3 should be used for documents which are to be Standards. She requested that any Canadians who are usually involved in the work of Division 4 consider volunteering to work on TC 2-23. She also requested that anyone interested in the work of TC 2-42 contact her, since the TC member list is now being assembled. S.M. McFadden requested further information concerning the terms of reference of this TC.

DIVISION 3

Interior Environment and Lighting Design

I.C. Pasini

Since I.C. Pasini was unable to attend this meeting, A.A. Gaertner distributed copies of I.C. Pasini's Division 3 report, and J. Love, who had attended the Division 3 meetings in France, presented the report. He pointed out that TC 3-25 was very active, with considerable exchange of data. He indicated that he would like to discuss the work of TC 3-26 with D.K. Tiller who is the chairman of this TC. He noted the additional report of L.A. Whitehead concerning the work of TC 3-30. He indicated that a new TC on Lighting Quality, chaired by Carol Jones, would like to set up a standardised questionnaire. This should be followed up with D.K. Tiller who has already done some work in this regard. He reported that a suggestion from the Divisional meeting was that the Divisional meetings should be held annually rather than every second year. He also stated that he would work on a revised Division 3 report with I.C. Pasini for distribution with the Minutes of this annual meeting.

DIVISION 4**Lighting and Signalling for Transport**

W.K. Adrian

W. K. Adrian presented his report, indicating that it only contains information concerning the TC committee meetings which he was able to attend. T. Nilsson requested information on how TC 4-36 actually measures visibility. W.K. Adrian explained, and indicated that he would forward a written explanation for inclusion in these minutes. S.M. McFadden requested that he also send some references on this subject. J. Roberge asked about the spherical target mentioned in the report. W.K. Adrian pointed out that the French have demonstrated that it is a better target since a flat target will disappear on the road. However, the analysis of the data is more complex.

TC 4-36 deals with the Visibility Concept as a design basis in roadway lighting. A pertinent publication* describes the calculation of target visibility that provided the basis for the method using the Visibility Level (VL) as a quality criterion. VL indicates how much a visual target is above threshold (threshold multiplier). The VL is calculated for a 10 minutes-of-arc target (7 inches square) located in various places on the road. The geometric mean of the VLs calculated was termed STV (Small Target Visibility). Although published in its basic form in 1967 it was widely unknown in North America. It was published in english in 1980 and in the latest form as given below:

* Dr-Ing W. Adrian, *Visibility of targets: Model for calculation*, Lighting Research and Technology **21**(4), p 181-188 (1989).

DIVISION 5**Exterior and Other Lighting Applications**

J. Roberge

J. Roberge presented his report, noting that the Division 5 report given at New Delhi has been published in the proceedings of the CIE 23rd Session (CIE Publication 120 (1996)). He has copies of the minutes from the New Delhi meeting if anyone should wish a copy. He pointed out that Division 5 has also recommended that there be annual Division meetings. They had also made suggestions, which are included in his report, concerning the next CIE Session. He commented that TC 5-15 should have a meeting of the minds between the people who work in the laboratory and the people who work in the field. He pointed out that R 5-03 requires users on the committee as well as manufacturers. Concerning the appointment of a reporter for Glare in very dark areas, W.K. Adrian suggested a joint committee, to use the concepts of discomfort glare. J.C. Zwinkels pointed out the work in Division 2, and W.K. Adrian reiterated that there should be a joint committee. J. Roberge noted that we do need more liaison between Divisions, as well as between laboratory measurements and applications people, such as TC 2-23 and Division 4. S.M. McFadden requested more information concerning the Helipad Lighting work - would it include ship lighting?

DIVISION 6**Photobiology and Photochemistry**

J.A. Veitch

J.A. Veitch presented her report, indicating that it was an edited version, and that she now could send the complete minutes to anyone who wished a copy (paper or email). She pointed out problems with inactive TC's, overlap between TC's (3-16, 6-11, 6-16, 6-17), and difficulties in inter-TC and inter-Divisional communications.

DIVISION 7**General Aspects of Lighting**

R. W. White

R. W. White distributed copies of, and presented his report. He indicated that he would be unable to attend the next Divisional meeting to be held in Durban, South Africa (September 1997), and requested that whoever would be able to attend from the CNC/CIE be willing to represent him.

7. Nominations and Appointments:

The current list of Members and Advisory Members was circulated (Appendix F).

Members:

The Secretary noted that the two Member appointments recommended by the CNC/CIE at the 40th annual meeting were endorsed by A.L. VanKoughnett, Director-General of NRC-INMS, and both accepted: J. Roberge and J.A. Veitch.

The terms of two Members, K.F. Lin and R.W. White, expire on December 31, 1996. Both Members indicated a willingness to continue. R.W. White pointed out that he has very limited funding for travel, which led to a discussion about the willingness of other members to act as proxies for those who could not attend meetings. It was moved by S.M. McFadden, seconded by M.G. Bassett that we nominate both K.F. Lin and R.W. White for a further term as CNC/CIE Members. Passed.

Advisory Members:

The Secretary noted that Eduard Alf and Nikolay Stoev had accepted our invitation to become Advisory Members. He reported that J.(Joe) Bastianpillai of Marshall Macklin Monaghan Ltd. in Thornhill, Ontario was interested in the CNC/CIE. This was confirmed by S.M. McFadden and J. Roberge. It was moved by S.M. McFadden, seconded by J.A. Chrysler that Mr. Bastianpillai be appointed an Advisory Member. Passed. It was also recommended that J.G. White of Transport Canada, Ottawa, Ontario, be offered the opportunity to become an Advisory Member. M.G. Bassett requested that we try to find the address of Debbie Takeuchi who has moved to B.C. S.M. McFadden informed the meeting that P.K. Kaiser had indicated that he wished to reduce his CIE activities. It was the consensus of the attendees that they would like him to stay on as an Advisory Member.

8. CIE Board of Administration Activities:

Since A.R. Robertson was unable to attend this meeting, J.C. Zwinkels presented his report (Appendix G). Concern was expressed that Canada would lose its presence on the CIE-BA since A.R. Robertson was not planning to continue as a CIE officer past his present term (until 1999). J. Roberge indicated that he would discuss this with A.R. Robertson, particularly concerning NRC's awareness of the importance of Canadian participation.

9. Other Business:

9.1 Board of Administration nominations:

J. Roberge presented the nominations recommended by the present CIE Board of Administration (Appendix H). No further nominations were put forward.

9.2 Publicity:

E. Wotton sent his regrets that he was unable to attend the meeting, but he was able to send a written submission expressing his concerns (Appendix I). The Secretary reported on a conversation he had had with Bryan Rogers, editor of *Lighting Magazine*, regarding the type of material which would be suitable for publication in their journal. The main issue was the presentation of CIE material in a Canadian context. Discussion followed as to the best method of achieving this end. It was decided that E. Wotton would be an excellent choice for such a correspondent. J. Roberge would contact E. Wotton and discuss with him the best means of accomplishing this goal.

/ The meeting broke for lunch at this point. /

9.3 Reports from members attending the CIE Session:

In his written submission (Appendix I), E. Wotton also raised the issue of the provision of reports to the CNC/CIE by those who attended the CIE Session in New Delhi. Discussion of this issue led

to the recommendation that the divisional reports and meeting reports be sent to E. Wotton, and to the Secretary. J.C. Zwinkels noted that the Photometry and Radiometry Group at the Institute for National Measurement Standards of NRC has some of this information on the World Wide Web at the address: <http://www.nrc.ca/inms/prenew.html>. This site also contains some links to other groups.

9.4 Correspondence:

J. Roberge brought forward several items of correspondence which he had received during the year. He noted that A.R. Robertson had replied for the CNC/CIE to the CIE-CB with our comments about the CIE Session in New Delhi in November 1995. There was also some discussion as to the potential of using email for more of the CNC/CIE mailings. The Secretary brought forward the correspondence for SHOWLIGHT 97, an international colloquium on entertainment lighting organised by the NIC of Great Britain on behalf of the CIE. R.W. White indicated that he would determine the interest of some lighting people in Montreal concerning this event and forward their names to the Secretary.

9.5/9.6 Meeting Format / Date and Place for next meeting.

These two items were considered together in light of the suggestion by the USNC that we consider a joint meeting next autumn. Their invitation is attached as Appendix J. J. Roberge indicated that he had replied to the invitation stating that we would be considering it at this meeting. There was a favourable response to the invitation and considerable discussion followed concerning some of the possible scenarios. J. Love volunteered to coordinate the CNC/CIE with T. McGowan, the USNC contact. His offer was gratefully accepted. A summary of some of the concerns and suggestions expressed is given in Appendix K.

9.7 New Business:

S.M. McFadden inquired about IHS (Information Handling Services) who are providing CIE Standards on CD-ROM. The Secretary indicated that a brochure concerning their services had been recently sent to all the CNC/CIE mailing lists. J. Roberge discussed the problems of funding CIE publications, indicating his concern about the loss of revenue in selling CIE documents, especially here in Canada. He also pointed out the present printing arrangement by which the local National Committees may reproduce and sell the CIE publications, sending a royalty for each copy to the Central Bureau.

10. Adjournment:

J.A. Veitch and J.A. Chrysler expressed the gratitude of the people at the two meeting sites to M.G. Bassett for her generous gift of delicious desserts. M.G. Bassett thanked B. Jordan for his efforts in all the local (PAPRICAN) arrangements, including the excellent tour of the PAPRICAN facilities on the afternoon of November 07. J. Roberge thanked Eli Szamosi for his efforts in arranging the video-conference link site at CSA in Etobicoke.

The meeting was adjourned by J. Roberge at approximately 16:00.



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1997-March-25

LIST OF APPENDIXES

- Appendix A:** Attendees to the 41st Annual Meeting of the CNC/CIE
- Appendix B:** Proposed Agenda for the CNC/CIE 41st Annual Meeting
- Appendix C:** President's Report
- Appendix D:** Secretary / Treasurer's Report
- Appendix E:** Publications Report
- Appendix F:** List of CNC/CIE Members and Advisory Members
- Appendix G:** Informal Report to CNC/CIE on CIE BA Activities
- Appendix H:** Board of Administration Nominations (NCCL 9609)
- Appendix I:** Correspondence from E. Wotton dated September 30, 1996.
- Appendix J:** Invitation - USNC and CNC Joint Meeting.
- Appendix K:** CNC/CIE discussion concerning Joint USNC - CNC meeting.

APPENDIX A

ATTENDEES TO THE 41ST ANNUAL MEETING OF THE CNC/CIE Friday, 1996-November-08

Pointe Claire, Québec (PAPRICAN)

Marion G. Bassett	Professor Emeritus, University of Toronto
Arnold A. Gaertner	National Research Council (INMS)
Byron Jordan	PAPRICAN
James Love	University of Calgary
Sharon M. McFadden	Defence and Civil Institute of Environmental Medicine (HES)
Jacques Roberge	Lithonia Lighting Canada
Nikolay Stoev	Ontario Laser and Lightwave Research Centre
Jennifer A. Veitch	National Research Council (IRC)
Robert W. White	Duschenes & Fish Architectes
Joanne C. Zwinkels	National Research Council (INMS)

Etobicoke, Ontario (video-conference from CSA)

Werner K. Adrian	University of Waterloo
J. Allyson Chrysler	Lighting Consultant
Barbara Kolesnik	UMA Engineering Ltd.
‡ K. Frank Lin	Lighting Sciences Canada Ltd.
Eli Szamosi	Canadian Standards Association

‡ attended am session

Charlottetown, PEI (tele-conference from UPEI)

Thomy Nilsson	University of Prince Edward Island
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REGRETS

Jim Armstrong	Ontario Natural Resources - Safety Association
Andrée Bichon	National Research Council (International Affairs)
H.W. Budde	National Research Council (retired)
S.W. McKnight	Lighting System Designs
Ivan C. Pasini	Public Works Canada
Alan R. Robertson	National Research Council (INMS)
D.K. Tiller	National Research Council (IRC)
M.K. Timmings	The Lighting Concept Centre
Lorne A. Whitehead	University of British Columbia
George Woo	University of Waterloo
Ernest Wotton	Lighting Consultant



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CNC/CIE 41st Annual Meeting Proposed Agenda

DATE: 1996 NOVEMBER 08 - Friday

TIME: 9:00 am to 5:00 pm

LOCATION: Pulp and Paper Research Institute of Canada (PAPRICAN)
570 St. John's Blvd., Pointe Claire, Québec
(turn page over for directions to PAPRICAN)

RSVP: A.A. Gaertner Tel: (613) 993-9344
Fax: (613) 952-1394
Email: arnold.gaertner@nrc.ca

PROPOSED AGENDA:

1. Call to Order and Approval of Agenda
2. Minutes of the 40th Annual CNC/CIE Meeting (Matters arising?)
3. President's Report J. Roberge
4. Secretary/Treasurer's Report A.A. Gaertner
5. Publications Report A.R. Robertson
6. 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.A. Veitch
Division 7: General Aspects of Lighting	R.W. White
7. Nominations and Appointments
8. Report from Sept. 1996 Board of Administration meeting A.R. Robertson
9. Other Business
 - 9.1 Nominations for next CIE Board of Administration J. Roberge
 - 9.2 Publicity E. Wotton
 - 9.3 Reports from members attending CIE Session E. Wotton
 - 9.4 Correspondence J. Roberge
 - 9.5 Meeting Format
 - 9.6 Date and Place for next year's meeting
10. Adjournment

Directions to PAPRICAN

PAPRICAN is located about 10 minutes by taxi from the Dorval Airport.

The two main east-west highways on Montreal Island are the TransCanada (40) and highway 20. Paprican is on a north-south divided boulevard (Blvd. St. Jean) between these highways.

Via the TransCanada (#40):

Most people will come in on the TransCanada and go south on Blvd. St. Jean. After crossing a large intersection (Hymus Blvd.) you will see Paprican on your right. It takes up most of the block. There are two driveways and the more southerly leads to the front door and the visitor's parking.

Via Highway #20:

From highway 20, go north on Blvd. St. Jean past Paprican to Hymus Blvd. and turn left. After two buildings you will see a driveway labelled "Paprican Ave." Follow this through our parking lot and around the far side of the building and it will lead to the visitor parking.

PAPRICAN contact:

Dr. Byron Jordan
Tel: (514) 630-4100
FAX: (514) 630-4134
E-mail: jordan@paprican.ca

Laboratory Tour of PAPRICAN

Thursday, November 07, 1996.

Time: 3:00 pm



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CNC/CIE
PRESIDENT'S REPORT TO THE 41st ANNUAL MEETING
November 8, 1996

Last year's President's report included "in extenso" coverage of all the salient points raised at the General Assembly Meeting held in New Delhi, just a month before our own NC meeting.

Detailed minutes of the New Delhi, G.A. meeting have since been received: it appears that all items of significance have already been covered adequately, and that the few updates that could be made in today's report will be covered as specific items of the agenda of this meeting, in particular items 8 and 9.1.

I am quite enthused by the proposal received from the US National Committee for a joint technical meeting of the Canadian and US N.C. members on the occasion of their or our NC annual meeting. (Our super-efficient secretary has already informed you by letter dated October, 31).

It has been a concern to our members, over the past few years, that the technical contents of our annual meeting was somewhat superficial, to the benefit of "housekeeping" chores that are not so interesting, but have to be done, in any structured organization.

Again this subject is on the agenda at items 9.4 and 9.5: since it is their idea, the US group has extended a specific invitation in Cleveland for October 1997, one month after the Mid-Term meeting in South-Africa. If our bylaws will allow it, and enough members are present, we might ever hold our own annual meeting there with tele or video-conference links for people who cannot be physically present. If the joint technical part works out well, maybe we could extend to the US NC an invitation for the fall of 1999, shortly after the 24th Session.

A side benefit might be better North-American coordination to promote some common positions on certain subjects where Europeans and North-Americans sometimes differ in opinion.

As expected after a Quadranium Session, 1996 has been a relatively quiet year for the CIE. Our secretary has done a very good job of keeping people informed in a timely manner with many letters, with attached documentation, sent to our mailing list.

The next step, also on the agenda at 9.2, is to disseminate that information outside our immediate circle by making better use of trade magazines and other means to publicize our work to the Canadian lighting establishment at large.

Finally, we are now on a straight keel financially, are better organized to disseminate CIE publications and can consider using the modest contents of our bank account for previously discussed purposes:

- to assist members with expenses relative to the discharge of their duties
- to publicize the results of our work so that it ends up being more useful to the Canadian lighting community.
- to support communications like teleconferences, when this cannot be done by some generous supporters
- for modest, punctual scholarships
- for donations of some publications to lending libraries.

I suggest that documented proposals or requests be made to our secretary-treasurer who would dispatch the info to our small executive group, (President, Vice-President, Secretary-Treasurer) augmented by the representative of our sponsor, NRC/INMS, for a quick decision.

Again this year, better, more timely communications and publicity should remain a constant preoccupation, so that all the great work done by our technical committees can be put to use in fulfilling our mandate.

Respectfully submitted by:

Jacques Roberge
President CNC/CIE
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November 8, 1996

APPENDIX D



COMMISSION INTERNATIONALE DE L'ÉCLAIRAGE
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CNC/CIE SECRETARY'S REPORT TO THE 41st ANNUAL MEETING

1996-NOVEMBER-08

This report covers the period from 1995-December-01 to 1996-November-07

CIE MATTERS:

1. Annual Membership Fee:

The annual membership fee of the CNC/CIE as a member of the CIE for 1996 is 84,554.00 Austrian Schillings. This is approximately \$10,630.00 Cdn. The NRC International Affairs Branch is responsible for making this payment. The NRC-IA is concerned over the continued increase in annual fees, particularly since their budget is frozen.

2. CIE Membership:

i. Pakistan: The results of the CNC/CIE ballot was to approve the membership of the CIE National Committee of Pakistan. (49 ballots were mailed, 25 were returned: all in favour) This result was transmitted to the Central Bureau. The final international vote was unanimous approval of their membership.

ii. Turkey: The results of the CNC/CIE ballot was to approve the membership of the National Committee of Turkey. (49 ballots were mailed, 22 were returned: all in favour.) This result was transmitted to the Central Bureau. The final international vote was unanimous approval of their membership.

3. CIE Technical Manager:

Applications have been invited for the new position of Technical Manager at the CIE Central Bureau in Vienna. The appointment is to start in mid-1997. Information concerning this position was mailed out in December 1995.

4. CIE Draft Standards:

DS 003.3 Spatial Distribution of Daylight-CIE Standard on Overcast Sky and Clear Sky.
The result of the CNC/CIE ballot was to approve the publication of this document as a CIE Standard. Copies of the draft, together with a ballot were sent to all 12 CNC/CIE Members. Eight were returned with 6 in favour and 2 abstentions. The comments received were passed on to the Central Bureau along with our vote. Copies and ballots were also made available upon request to our Advisory Members and the general mailing list. None of these took advantage of the opportunity. CIE S 003-1996 has now been published as a CIE Standard.

DS 004 Colours of Signal Lights . After receiving comments, TC 4-14 met again to revise their draft. Version DS 004.2 was produced and copies of the draft, together with a ballot were sent to all 12 CNC/CIE Members and also one to J.G. White, who had commented on previous versions. Eight were returned, all in favour. The comments received were passed on to the Central Bureau along with our vote. Copies and ballots were also made available upon request to our Advisory Members and the general mailing list. None of these took advantage of the opportunity.

DS 005.2 (1996) *CIE Standard Colorimetric Illuminants*. Copies of this draft have been sent to all CNC/CIE Members for their comments (before 1996-December-15). Any Advisory Members or non-members may receive a complimentary copy if they are prepared to provide comments for the Canadian submission.

5. CIE Information:

The Central Bureau makes available by email various items of information such as Circular Letters to NCs, the text of *CIE News*, Press Releases, etc. CIE information has also been set up on the WorldWideWeb by H.Ikeda in Japan.

The most important items of the Divisional Activity reports are also published in *CIE NEWS*, and these are made available electronically (WWW) on the CIE home page at <http://www.cie.co.at/cie/home.html> .

6. Mailings:

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

CIE NEWS # 36, December 1995

CIE NEWS # 37, March 1996

CIE NEWS # 38, June 1996

CIE NEWS # 39, September 1996

CIE ROSTER, March 1996

CIE Press Releases:

CIE Publication 119 (1995), Vol. I, *Proceedings of the 23rd Session of the CIE*.

CIE Publication 120 (1996), Vol. II, *Proceedings of the 23rd Session of the CIE*.

CIE Publication 121 (1996), *The Photometry and Goniophotometry of Luminaires*.

CIE Publication 122 (1996), *The Relationship between Digital and Colorimetric Data for Computer-Controlled CRT Displays*.

CIE Special Publication x010 (1996), *Proceedings of the CIE Symposium '96 on Colour Standards for Image Technology*.

CIE Special Publication x011 (1996), *Special Volume, 23rd Session of the CIE, New Delhi, November 1-8, 1995: Late Papers*.

CIE Draft Standard DS 003.3 (1996), *Spatial Distribution of Daylight - Overcast Sky and Clear Sky*.

CIE Standard S 003 (1996), *Spatial Distribution of Daylight - CIE Standard Overcast Sky and Clear Sky*.

CIE Draft Standard DS 004.2 (1996), *Colours of Signal Lights*.

CIE Draft Standard DS 005.2 (1996), *CIE Standard Colorimetric Illuminants*.

CNC/CIE MATTERS:

1. Mailing Lists:

At present I maintain 4 mailing lists: Members(12), Advisory Members(40), General Interest(32), and a list of Journals/Associations(20). In general, the difference between the first two and the 3rd is that the 3rd 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.

2. Membership:

A list of our Members and Advisory Members is available and will be discussed later in the agenda for the purposes of making any changes.

Members:

- i. At last years annual meeting (40th), two Member appointments were recommended by the CNC/CIE, and letters of appointment were sent to these people by A.L. VanKoughnett, Director-General of INMS. Both have accepted. They are:

J. Roberge

J.A. Veitch

Advisory Members:

- i. E. Alf and N. Stoev have accepted our nomination as an Advisory Members.
- ii. J.G. White of Transport Canada, Ottawa, has shown interest by commenting on the CIE DS004 *Colours of Signal Lights*. I suggest we offer him the opportunity to become an Advisory Member.
- iii. J. (Joe) Bastianpillai of Marshall Macklin Monaghan Ltd. in Thornhill, Ontario has shown interest in the CNC/CIE. I suggest we appoint him as an Advisory Member.

Respectfully submitted,



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CNC/CIE Publications Report, November 1996

A.R. Robertson

The following table summarizes publication sales and purchases for the last two years. Details for 1996 are on the attached spreadsheets.

	1995 (\$)	1996 (\$)
Balance forward	5211.20	4907.82
Sales	7343.00	2303.00
Interest	3.25	0.00
Payments to CB	(7637.13)	(591.30)
Other expenses	(12.50)	(6.50)
Closing balance	4907.82	6613.02
Debt to CB	(355.46)	(1560.81)
Effective balance	4552.36	5052.21

The net income (about \$500) was less than last year because I replenished depleted stock (I try to have one or two copies of every publication in stock). Since our mark-up is about 40%, the sales of \$4907.82 actually represent a profit of about \$2000. This appears to be sustainable with our present price structure so the CNC should decide on a financial policy. Options include:

1. Reduce the mark-up to make CIE publications more readily accessible in Canada.
2. Spend the profit to subsidize CNC work (eg travel to meetings)
3. Build up a reserve in case NRC funding of the CNC should ever be reduced.

Although I planned to resign as Publications Officer at the end of 1995, I have in fact continued. A few weeks ago, I talked to Frank Lin and he has agreed to take over the work so I plan to transfer responsibility to him in the near future.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	CIE Publications		96-11-05												
2															
3	Cash Flow														
4															
5	Date		Sales	Other Income	Payments to CB	Other Expense	Deposit	Cheques in hand	Bank Balance	Total Balance	Purchases (ATS)	Debt to CB (ATS)	Exchange Rate	Debt to CB (\$)	Effective Balance
6															
7	95-11-25	Forward						\$0.00	\$4 907.82	\$4 907.82		3133.00	0.14391	\$450.87	\$4 456.95
8	95-11-29	Invoice #396						\$0.00	\$4 907.82	\$4 907.82	1 196.00	4329.00	0.14391	\$622.99	\$4 284.83
9	95-12-11	Public Works	\$223.00					\$223.00	\$4 907.82	\$5 130.82		4329.00	0.14391	\$622.99	\$4 507.83
10	95-12-18	RCMP	\$62.00					\$285.00	\$4 907.82	\$5 192.82		4329.00	0.14391	\$622.99	\$4 569.83
11	96-01-24	BC Min. of Trans.	\$655.00					\$940.00	\$4 907.82	\$5 847.82		4329.00	0.14391	\$622.99	\$5 224.83
12	96-02-20	BC Min. of Trans.	\$82.00					\$1 022.00	\$4 907.82	\$5 929.82		4329.00	0.14391	\$622.99	\$5 306.83
13	96-03-20	Deposit					\$1 022.00	\$0.00	\$5 929.82	\$5 929.82		4329.00	0.14391	\$622.99	\$5 306.83
14	96-03-20	Exchange rate adjustment						\$0.00	\$5 929.82	\$5 929.82		4329.00	0.13659	\$591.30	\$5 338.52
15	96-03-20	Payment			\$591.30			\$0.00	\$5 338.52	\$5 338.52		0.00	0.13659	\$0.00	\$5 338.52
16	96-03-20	Commission				\$6.50	(\$6.50)	\$0.00	\$5 332.02	\$5 332.02		0.00	0.13659	\$0.00	\$5 332.02
17	96-06-12	Invoice #130						\$0.00	\$5 332.02	\$5 332.02	1 196.00	1196.00	0.13659	\$163.36	\$5 168.66
18	96-06-20	Marshall-Macklin-Mor	\$554.00					\$554.00	\$5 332.02	\$5 886.02		1196.00	0.13659	\$163.36	\$5 722.66
19	96-07-03	Invoice #156						\$554.00	\$5 332.02	\$5 886.02	429.00	1625.00	0.13659	\$221.96	\$5 664.06
20	96-08-14	Transport Canada	\$34.00					\$588.00	\$5 332.02	\$5 920.02		1625.00	0.13659	\$221.96	\$5 698.06
21	96-08-20	Sunveil Sunwear	\$104.00					\$692.00	\$5 332.02	\$6 024.02		1625.00	0.13659	\$221.96	\$5 802.06
22	96-08-21	Invoice #208						\$692.00	\$5 332.02	\$6 024.02	8 294.00	9919.00	0.13659	\$1 354.84	\$4 669.19
23	96-09-23	Verilux	\$53.00					\$745.00	\$5 332.02	\$6 077.02		9919.00	0.13659	\$1 354.84	\$4 722.19
24	96-10-01	Invoice #253						\$745.00	\$5 332.02	\$6 077.02	1 508.00	11427.00	0.13659	\$1 560.81	\$4 516.21
25	96-10-09	Hughes Elcan	\$299.00					\$1 044.00	\$5 332.02	\$6 376.02		11427.00	0.13659	\$1 560.81	\$4 815.21
26	96-10-25	Ledafite	\$104.00					\$1 148.00	\$5 332.02	\$6 480.02		11427.00	0.13659	\$1 560.81	\$4 919.21
27	96-11-04	UBC (Beder)	\$133.00					\$1 281.00	\$5 332.02	\$6 613.02		11427.00	0.13659	\$1 560.81	\$5 052.21
28															
29	Total	Total	\$2 303.00	\$0.00	\$591.30	\$6.50					12 623.00				

	CIE Publications							
	Stock list	96-11-05						
	Exchange rate	0.114						
	Safety factor	1.1						
	Mark up	0.49						
	Multiplier	0.245882	(=ATS x ER x SF / (1 - MU))					
No.	Title	Year	Cost (ATS)	Price (CDN\$)	Stock 951129	Purchases since 951129	Sales since 951129	Current stock
1	Urban sky glow	1980	0.00	\$74.00	4			4
2.2	Signal colours	1975	0.00	\$120.00	3			3
12.2	Road Lighting	1977	0.00	\$94.00	4			4
13.3	Colour rendering	1995	539.50	\$133.00	1		1	0
15.2	Colorimetry	1986	481.00	\$118.00	1			1
16	Daylight	1972	0.00	\$120.00	5			5
17.4	Vocabulary	1987	2515.50	\$619.00	1			1
18.2	Physical photometry	1983	0.00	\$88.00	3			3
19.21	Visual performance - 1	1981	0.00	\$152.00	4			4
19.22	Visual performance - 2	1981	0.00	\$120.00	4			4
23	Motorway lighting	1973	0.00	\$101.00	5			5
24	Luminaire phot. (indoor)	1973	0.00	\$101.00	3			3
27	Luminaire phot. (street)	1973	0.00	\$107.00	4			4
29.2	Interior lighting	1986	598.00	\$133.00	0	2	1	1
30.2	Calc.& meas. (road lgt)	1982	0.00	\$184.00	1			1
31	Glare (road lighting)	1976	0.00	\$74.00	1			1
32A	Special road lgt (French)	1977	0.00	\$101.00	4			4
32B	Special road lgt (English)	1977	0.00	\$101.00	5			5
33A	Road lgt depn (French)	1977	0.00	\$94.00	4			4
33B	Road lgt depn (English)	1977	0.00	\$94.00	5			5
34	Road lgt installn data	1977	0.00	\$88.00	4		1	3
38	Char. of materials	1977	0.00	\$184.00	4			4
39.2	Surf.colours for signals	1983	0.00	\$120.00	4			4
40	Interior lighting calcs	1978	0.00	\$101.00	4			4
41	Light as true vis. quant	1978	344.50	\$88.00	4			4
42	Lighting for tennis	1978	0.00	\$74.00	6			6
43	Phot. of floodlights	1979	0.00	\$94.00	4			4
44	Absolute reflection	1979	0.00	\$107.00	2			2
45	Lighting for ice sports	1979	0.00	\$74.00	5			5
46	Material refl. stds.	1979	0.00	\$133.00	4			4
47	Lighting for wet roads	1979	0.00	\$120.00	4			4
48	Road traffic signals	1980	0.00	\$88.00	2		1	1
49	Emergency lighting	1981	0.00	\$62.00	4		1	3
51	Daylight simulators	1981	0.00	\$82.00	2			2
52	Interior lighting calcs	1982	0.00	\$184.00	4			4
53	Radiometers & photom	1982	0.00	\$82.00	3			3
54	Retroreflection	1982	0.00	\$82.00	2			2
55	Discomfort glare	1983	0.00	\$94.00	3			3
56	Proceedings 1983	1983	0.00	\$184.00	5			5
57	Lighting for football	1983	0.00	\$62.00	4			4
58	Lighting for sports halls	1983	0.00	\$48.00	4			4
59	Polarization	1984	0.00	\$82.00	4			4
60	Vision & the vdu	1984	0.00	\$82.00	1			1
61	Tunnel entrance lighting	1984	0.00	\$120.00	3			3
62	Lighting for swimming	1984	0.00	\$74.00	2			2
63	Spectroradiometry	1984	435.50	\$107.00	0	2		2

STOCK.XLS

No.	Title	Year	Cost (ATS)	Price (CDN\$)	Stock 951129	Purchases since 951129	Sales since 951129	Current stock
64	Spectral responsivity	1984	0.00	\$107.00	3			3
65	Absolute radiometers	1985	0.00	\$82.00	3			3
66	Road surfaces	1984	0.00	\$107.00	2			2
67	Photometry of sports li	1986	195.00	\$48.00	2			2
68	Exterior lighting	1986	435.50	\$107.00	1			1
68	Exterior lighting	1986	0.00	\$107.00	4		1	3
69	Illuminance meters	1987	357.50	\$88.00	1			1
69	Illuminance meters	1987	396.50	\$97.00	1			1
70	Meas. of luminous inte	1987	383.50	\$94.00	2			2
71	Proceedings 1987	1987	1898.00	\$467.00	1			1
72	Retroreflectors	1987	435.50	\$107.00	0	2		2
73	Road markings	1988	435.50	\$107.00	1			1
74	Road signs	1988	617.50	\$152.00	0			0
74	Road signs	1988	682.50	\$168.00	2	2	1	3
75	Spec. luminous efficien	1988	299.00	\$74.00	2			2
76	Meas. of luminescence	1988	435.50	\$107.00	2			2
77	Electric light sources	1988	617.50	\$152.00	1			1
78	Brightness-luminance	1988	812.50	\$217.00	2			2
79	Road traffic lights	1988	273.00	\$74.00	1			1
80	Observer metamerism	1989	273.00	\$74.00	2			2
81	Mesopic photometry	1989	318.50	\$82.00	3			3
82	CIE history	1989	884.00	\$217.00	1			1
83	Lighting for tv sports	1989	273.00	\$74.00	2			2
84	Luminous flux	1989	383.50	\$94.00	1		1	0
84	Luminous flux	1989	422.50	\$104.00	0	2	1	1
85	Solar spec. irradiance	1989	383.50	\$94.00	2			2
86	1988 spec.lum.eff.func	1990	253.50	\$62.00	3		1	2
87	Self-luminous displays	1990	357.50	\$88.00	1		0	1
88	Lighting for road tunne	1990	364.00	\$90.00	1			1
89	Collection 1990	1991	422.50	\$104.00	2			2
90	Sunscreen testing	1991	279.50	\$69.00	2			2
91	Proceedings 1991	1992	1170.00	\$288.00	2			2
92	Lighting of urban areas	1992	331.50	\$82.00	2		1	1
93	Road lighting / acciden	1992	539.50	\$133.00	0			0
93	Road lighting / acciden	1992	598.00	\$147.00	0	4		4
94	Floodlighting	1993	435.50	\$107.00	1			1
95	Contrast & visibility	1992	422.50	\$104.00	2		1	1
96	Electric light sources	1992	299.00	\$74.00	1			1
97	Maintenance/indoor	1992	299.00	\$74.00	2			2
98	Personal uv dosimetry	1992	299.00	\$74.00	2		1	1
99	Lighting education	1992	279.50	\$69.00	1			1
100	Night driving	1992	435.50	\$107.00	2			2
101	Parameters/colour diffe	1993	253.50	\$62.00	2		1	1
102	File format-photometric	1993	331.50	\$82.00	2			2
103	CIE Collection 1993	1993	435.50	\$107.00	1			1
104	Daytime running lights	1993	253.50	\$62.00	1			1
105	Spectroradiometry	1993	299.00	\$74.00	1			1
106	CIE Collection/Photobi	1993	422.50	\$104.00	1	2	1	2
107	Signal colours	1994	396.50	\$97.00	1	2	1	2
108	Daylight measurement	1994	422.50	\$104.00	1			1
109	Corresponding colours	1994	279.50	\$69.00	2			2
110	Spatial dist. daylight	1994	364.00	\$90.00	1			1
111	Variable message sign	1994	422.50	\$104.00	1	2	1	2
112	Glare evaluation	1994	279.50	\$69.00	1			1
113	Retroreflective signs	1995	435.50	\$107.00	1			1

STOCK.XLS

No.	Title	Year	Cost (ATS)	Price (CDN\$)	Stock 951129	Purchases since 951129	Sales since 951129	Current stock
114	Collection - photometry	1994	396.50	\$97.00	2			2
115	Lighting of roads	1995	331.50	\$82.00	2	2	2	2
116	Colour difference eval.	1995	279.50	\$69.00	2			2
117	Discomfort glare	1995	364.00	\$90.00	2			2
118	Collection - colour & vis	1995	435.50	\$107.00	2			2
121	Goniophot. of luminaire	1996	422.50	\$104.00	2		1	1
122	Colorim. of CRTs	1996	331.50	\$82.00	2			2
D001	Phot. & colorim. data	1988	331.50	\$82.00	0			0
D002	Colour rend. data	1991	598.00	\$147.00	0			0
D003	CIE Roster		331.50	\$82.00	0			0
D004	CIE Publications	1993	598.00	\$147.00	0			0
D005	Daylight simulators	1994	214.50	\$53.00	0			0
D006	Daylight AQC	1994	260.00	\$64.00	1			1
D007	Corresponding colours	1994	422.50	\$104.00	0			0
D008	Colour rendering	1995	260.00	\$64.00	0			0
ISO10526	Standard illuminants	1991	208.00	\$62.00	2			2
ISO10527	Standard observers	1991	390.00	\$101.00	3			3
S003	Daylight	1996	214.50	\$53.00	0	2	1	1
DS004.2	Signal colours	1996	140.00	\$34.00	0		1	-1
DS005.2	Colorim. Illuminants	1996	45.00*	\$12.00	0			0
x001	SLG-Div.5 Symposium	1989	279.50	\$69.00	0			0
x002	SLG-Div.4 Symposium	1989	422.50	\$104.00	0			0
x003	CIE-WMO Symposium	1989	598.00	\$147.00	1			1
x005	Proc.sem.computer pg	1992	598.00	\$147.00	0			0
x006	Japan CIE / Prakash91	1991	279.50	\$69.00	0			0
x007	Proc.Symp.Colorimetry	1993	617.50	\$152.00	0			0
x008	Urban Sky Glow	1994	396.50	\$97.00	1			1
x009	Proc.Symp.Photometry	1995	650.00	\$160.00	2			2
x010	Proc.Symp.Image Tech	1995	825.50	\$203.00	0			0
x011	Proc.95 late papers	1995	422.50	\$104.00	0			0
AIC1AB	AIC Proc 93 A+B	1993	975.00	\$188.00	0			0
AIC1AC	AIC Proc 93 A+C	1993	975.00	\$188.00	0			0
AIC1ABC	AIC Proc 93 A+B+C	1993	1495.00	\$288.00	0			0
	Total				256	24	22	258
	Total cost (ATS)				43 563	11 115	6 868	47 811
	* Print at NRC from master							

APPENDIX F



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

Canadian National Committee Comité National Canadien



CNC/CIE MEMBERS

<u>CNC/CIE</u>			<u>TERM (expiry)</u>	<u>CIE</u>
President	J. Roberge	Québec	1999-12-31	Division 5, Finance Com.
Vice President	W.K. Adrian	Ontario	1998-12-31	Division 4
Secretary/Treasurer	A.A. Gaertner	Ontario	1997-12-31	
	K.F. Lin	Ontario	1996-12-31	
	J. Love	Alberta	1998-12-31	
	S.M. McFadden	Ontario	1998-12-31	Division 1
	T. Nilsson	P.E.I.	1997-12-31	
	I.C. Pasini	Ontario	1998-12-31	Division 3
	J.A. Veitch	Ontario	1999-12-31	Division 6
	R.W. White	Québec	1996-12-31	Division 7
	J.C. Zwinkels	Ontario	1998-12-31	Division 2
<i>ex officio</i>	A.R. Robertson	Ontario		CIE VP, NRC/INMS Member

CNC/CIE ADVISORY MEMBERS

Eduard Alf	Ontario	Brian Liddy	Ontario
Ian Ashdown	British Columbia	P. Manning	Nova Scotia
M.G. Bassett	Ontario	J. Bruce McArthur	Ontario
* J.(Joe) Bastianpillai	Ontario	Donald B. McIntyre	Ontario
H.W. Budde	Ontario	S.W. McKnight	Ontario
J. Allyson Chrysler	Ontario	Arthur H. Mendel	Québec
Vince Cimino	Ontario	H. H. Mikaelian	New Brunswick
W.B. Cowan	Ontario	M.J. Ouellette	Ontario
Biman Das	Nova Scotia	Tim M. Richardson	Ontario
R.V. Day	Ontario	Ralph A. Smith	New Brunswick
R.B. Gibbons	Ontario	Nikolay Stoev	Ontario
C.M. Henville	Ontario	Eli Szamosi	Ontario
Byron Jordan	Québec	Debbie Takeuchi	Ontario
P.K. Kaiser	Ontario	B.W. Tansley	Ontario
Roy Kaufmann	British Columbia	D.K. Tiller	Ontario
S.M. Kaye	Manitoba	M.K. Timmings	Ontario
A. Ketvirtis	Ontario	D. Trotter	Ontario
Barbara Kolesnik	Ontario	Lorne A. Whitehead	British Columbia
Jacques Lacasse	Québec	George Woo	Ontario
R. Lakowski	British Columbia	Ernest Wotton	Ontario

* = requires CNC/CIE appointment at annual meeting of 1996-November-08.

November 5, 1996



APPENDIX G



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

Canadian National Committee Comité National Canadien



Informal Report to CNC/CIE on CIE BA Activities

A.R. Robertson

8 November 1996

I attended a meeting of the CIE Board of Administration on 9 September 1996. Apart from the routine matters of Division reports, approvals of TC work, finances etc., the following items may be of interest to the CNC.

Interviews have been conducted for the position of Technical Manager. Apparently there are several qualified candidates although some of them want a higher salary than the CIE can afford.

Preliminary planning for the Warsaw Session in 1999 is well under way. There was considerable discussion about when to hold the session with the cost of accommodation and the convenience of university employees being the main factors. June 24-30 now seems to be the most likely period but this is still to be confirmed. The format will be the same as in New Delhi except that the break between the conference part and the Division meetings will be reduced to one day. The requirement for a 3-language abstract for all papers will be dropped and the page length will be increased to 5 pages for presented papers and 3 pages for posters.

A slate of officers for the next quadrennium (1999-2003) was recommended. National Committees can add further nominees. I had informed the Board in advance that I did not want to be nominated as I do not know whether I will still be at NRC (and thus have its financial support for travel) beyond 2001. The procedure was that a small nominating committee drew up a slate with one vacancy (Secretary). The vacancy was discussed by the whole Board and J. Schanda was proposed.

Following the meeting the Board held a two-day long-term planning session with a professional facilitator. A list of "action items" was prepared which, if successful, will make the CIE a much more vibrant organization by the year 2001 (an arbitrarily chosen target). The most important issues agreed on were that the CIE must become much faster in its reaction to needs, it must attract more young scientists and engineers, and it must get more funding. The Board continues to work on these issues and I would welcome any suggestions from CNC members on how the CIE can be improved.



APPENDIX H

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

Central Bureau: Kegelgasse 27 · A-1030 Wien · Austria

Central Bureau

Circular Letter
to
National Committees
NCCL9609

Phone: (+43 1) 714 31 87 0

Fax: (+43 1) 713 08 38 18

~~E-mail: ciec@ping.at~~

E-mail: ciec@ping.at

1996-09-10 / 255

Dear Colleagues,

According to the By-Laws 1.2.2, nominations for Officers for the 1999 - 2003 quadrennium may be made by the Board of Administration or by National Committees. Nominations of the Board are to be sent to National Committees at least 10 months before the Midterm Meeting of the General Assembly.

The Board of Administration, at its meeting on 9th September 1996, recommended the following slate of officers:

President-Elect 1997 - 1999 and President 1999 - 2003	H.A. Löfberg	SE
Past-President	J. Hsia	US
Vice-President Publications	F. Hengstberger	ZA
Vice-President Technical	W. Julian	AU
Vice-President	W. van Bommel	NL
Vice-President	J. Bastie	FR
Vice-President	D. Sliney	US
Secretary	J. Schanda	HU
Treasurer	M. Seidl	DE

National Committees are entitled to make further nominations for Officers.

The Board of Administration is aware that this slate does not include somebody from one of our members in developing countries and invites the NCs to bear this in mind when considering additional nominations.

Nominations by a National Committee, endorsed by at least two other National Committees, must reach the General Secretary **by 1997-04-03 latest**.

Yours sincerely,


Christine Hermann
General Secretary

APPENDIX I

September 30, 1996

Dr. A. A. Gaertner
National Research Council of Canada - Building M-36
Ottawa, Ontario K1A 0R6

M 18174
00-1810-245-6

Dear Arnold,

I am afraid that I will not be able to attend the next meeting of the CNC/CIE. May I, then, ask you to give my regards to our colleagues and to place the following propositions before them.

1. The Minutes of the 39th Annual Meeting of the CNC/CIE read:
E. Wotton raised an issue... regarding CIE communications. It was his opinion that CIE/CNC is not addressing the lighting community. He suggested that the Secretary should submit summaries of CIE activities to local publications such as *Lighting Magazine*. This suggestion was endorsed by all present. However, the motion was withdrawn when the meeting was informed that the Secretary does currently submit CIE information to *Lighting Magazine*, but has rarely seen any of this material published.

I asked the Editor of *Lighting Magazine* why CIE material rarely appeared in his publication. He told me that the material he receives is not in a form suitable for publication.

I propose that the Secretary be requested kindly to make contact with the above Editor to find out what form CIE material should take to ensure its publication and then to send out the material in that form to *Lighting Magazine* and other lighting publications.

2. I propose that those members who represented the CNC/CIE at the conference in New Delhi be requested to provide the other members of the CNC/CIE with a report of the Conference activities which should include the interesting lighting information obtained from informal contacts.

Sincerely,



Ernest Wotton

APPENDIX J



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

Canadian National Committee Comité National Canadien



1996-October-31

To: CNC/CIE Members and Advisory Members

From: A.A. Gaertner, Secretary, CNC/CIE

Re: Invitation - USNC and CNC Joint Meeting

I just received the following invitation (by email) which will need to be discussed at the CNC/CIE annual meeting at PAPRICAN on 1996-November-08:

From: NAME: Terry McGowan
TEL: 216 266-3234 <MCGOWAN@A1@LISO>
To: "jaroberge@lithonia.com"@thomas@liso@mrgate,
"arnold.gaertner@nrc.ca"@thomas@liso@mrgate
Mr. Jacques Roberge
Lithonia Lighting
St-Hyacinthe, Quebec CANADA

Dr. Arnold Gaertner
NRC Institute for National Measurement Standards
Ottawa, Ontario CANADA

Gentlemen:

This is being written on behalf of the U.S. National Committee (USNC) of the CIE.

At our USNC Annual Meeting last weekend, there was considerable enthusiasm for a proposal to explore the idea of a joint CNC and USNC technical meeting in conjunction with our respective national committee meetings in 1997. The objectives would be to review lighting research work that is taking place in both countries and to discuss common CIE issues (technical and non-technical).

Specifically, we propose:

- A one-day combined technical meeting jointly organized by the CNC and USNC technical chair persons (I would be the USNC organizer as Chairman of the USNC Technical Council).
- Arrangements for an additional day of CNC and USNC business meetings. CNC members would certainly be welcome at the USNC annual meeting if that is of interest.

NRC-CNRC

(over)

- Venue to be in a "border" city for ease of travel. Our choices are Toronto or Cleveland, Ohio. We have had an invitation from the Cleveland contingent and there are economical facilities there, but we are flexible on location.
- A weekend meeting in mid-October. The mid-term Division meetings for the CIE are in Durbin, S.A. in early September. That would allow a month for travel and report writing so we could take advantage of hearing about new CIE work from those attending the Durbin meetings. Travel costs are always an issue for the USNC, so we prefer meeting dates involving a "Saturday-night stay". Many also drive to USNC meetings, so October is preferable to a later date to avoid potential bad-weather driving.

Our typical USNC Annual Meeting Agenda is as follows:

Friday Evening	Wine and Cheese Welcome Party
Saturday	Technical Sessions
Saturday Evening	Dinner and Guest Speaker
Sunday Morning	USNC Annual Business Meeting (Adjournment by Noon)

This year we started on Saturday, had the technical day on Sunday and held our business meeting on Monday morning with a tour of the Lighting Research Center on Monday afternoon. But, again, we are flexible on the arrangements and sequence of events. We like to take advantage of lighting laboratories, new installations or other local facilities of interest to lighting people and there are several opportunities for such visits in both Cleveland and Toronto.

No one in the USNC can recall a joint CNC and USNC meeting. Perhaps that, in itself, is a good reason to consider such an event. We shall look forward to hearing from you.

Sincerely,

Terry McGowan, Vice-President
USNC of the CIE

cc:

Alan Lewis, President, USNC
Jonathan Hardis, Secretary, USNC

Appendix K

CNC/CIE discussion concerning Joint USNC - CNC meeting.

In response to the invitation from the USNC (Appendix J), and in consideration of the date and place for our next annual meeting, the following ideas were expressed:

- we should keep our business meeting separate from the USNC,
- we could have our business meeting while the USNC has their business meeting,
- the technical sessions component will be great,
- we could invite the USNC to participate with the CNC in Canada in 2 years time,
- the USNC have facilities for slides, etc., during the technical sessions,
- will tele-conferencing facilities be available?,
- we should keep video-conferencing for our own people who cannot attend,
- what about the costs involved?
- there is concern about obtaining reasonable (i.e. low) hotel rates,
- what about specifics of the program:
 - who will set up the program?
 - what about Canadian input for the program,
 - be sure that it is a CIE program, not an IES program
- should there be a FAX machine available to send overheads, etc., to people who are not able to be present,
- what is happening in Mexico, could they be included?,
- avoid our Thanksgiving,
- the meeting could be held in Niagara Falls, Canada
- the meeting could be over a whole weekend,
- we could have our business meeting on the Friday,
- LRI has a meeting in the beginning of October, a symposium on visual performance, which is being held in Orlando, Florida
- Orlando is cheapest at this time of year,



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Canadian National Committee Comité National Canadien



CNC/CIE DIVISION MEMBERS'
REPORTS
for the
41st Annual CNC/CIE Meeting
1996-November-08

Further information concerning the work of the CIE Divisions may be obtained from the CNC/CIE Division Members:

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CIE Activity Report for Division 1: Vision and Colour

Sharon M. McFadden

Annual Meeting of Division 1

The annual meeting of Division 1 for 1996 was held 13-14 June in Göteborg, Sweden in conjunction with the annual meeting of the AIC. Both Dr. Alan Robertson and I attended the meeting. Three Technical Committees, TC1-21, TC1-33, and TC1-37, also held meetings at that time. The following summary covers the recent activities in Division 1.

Vision Section

TC1-21: Testing of supplementary systems of photometry - A fourth draft of a report has been circulated to committee members. There was considerable discussion during the technical committee meeting, but the draft report was not approved at the meeting.

TC1-26 Individual variation in heterochromatic brightness matching - Using principal component analysis, two significant vectors appear to be sufficient to characterize individual variation.

TC1-30 Luminous efficiency functions - Because a new system of photometry is in the process of being developed, it was suggested that the committee produce a technical report rather than a standard.

TC1-36: Fundamental chromaticity diagram with physiologically significant axes - A report, describing the procedures adopted by the TC in order to derive a continuous fundamental observer from the CIE 1964 supplementary standard colorimetric observer, will be published in the proceedings of the CIE Expert Symposium on Colour Standards for Image Technology.

TC1-37: Supplementary system of photometry - This TC is very active and there was considerable discussion about the factors that need to be taken into account.

TC1-41: Extension of $V(\lambda)$ beyond 830 nm - The report is ready, but the TC is waiting for results from TC1-36.

TC1-42: Colour appearance in peripheral vision - The TC has collected high saturation data. They need middle and low saturation data. They expect to have a colour zone map by the 1997 meeting.

TC1-46: Concept and application of equivalent luminance - This is a new TC. The TCC is in the process of recruiting members and establishing the work to be carried out.

UL "Colour Section"

TC1-27: Specification of colour appearance for reflective media and self luminous display comparison - Data collection and analysis is continuing.

TC1-31: Colour notation and colour order systems: The final report has been circulated to Division 1 members for approval.

TC1-33: Colour rendering - The report of this TC is now ready for voting.

TC1-34: Testing of colour appearance models - The mandate of this TC has changed. They are now aiming to develop a new interim model of colour appearance that is a combination of existing models.

TC1-38: Compatibility of tabular data for computational purposes - This TC is not making much progress. There seems to be some difficulty in reaching consensus.

TC1-43: Rod intrusion in metameric colour matches - The work of this TC is continuing.

TC1-44: Practical daylight sources for colorimetry - A working plan has been developed and a membership list drawn up. A suggestion by the TCC to modify the terms of reference was rejected.

TC1-45: Revision of CIE Publication No. 51 to include D50 simulators - It is anticipated that the work of this TC will be completed relatively quickly. Currently, the spectral range for D50 is 400-700 nm. There is a requirement to extend this to 780 nm because of the large amount of red in D50 simulators.

R1-13: Revision of Wyszecki and Stiles *Color Science* - It is hoped to have this completed within two years. They are looking for funding, authors to rewrite each chapter, and editors.

R1-14: Visual observation of blood-oxygen levels - It was suggested that the problem may not be the lamp but people's ability to determine clinical conditions based on skin colour.

Visual Ergonomics

TC1-16: Lighting needs for the partially sighted - The draft report was to have been distributed after the last meeting. It is to be distributed electronically within the next month.

TC1-18: Disability glare - A draft report exists, but it is largely the work of Vos. He suggested disbanding the TC and having him and van den Berg write a final report to finish off the work.

TC1-19: Specification of visibility for real tasks - A third draft is expected by the end of 1996.

R1-03: Engineering applications of brightness scales - A report is expected in 1997.

R1-06: Transient adaptation - The final report is expected in 1997.

Update of CIE Vocabulary

R1-15 was established to liaise between Division 1 and TC 7-06 which is responsible for revising CIE Publication No. 17.4. The reporter solicited the support of the Division 1 members from each country and distributed a list of existing and proposed terms to those individuals that agreed to participate. An initial review of these terms was to have been completed by this fall. A summary of the results of this initial review is expected by the end of the year.

New Reporters

R1-16: Visual adaptation to complex luminance distribution - The terms of reference are to survey state-of-the-art research on visual adaptation. H. Shinoda will be the reporter.

R1-17: Review of colour matching data - The terms of reference are to inform Division 1 of work carried out by researchers in the area of additive colour matching, breakdown of trichromatic generalization, and improved systems of colorimetry, to report progress at Division 1 meetings, and to advise on the feasibility of establishing a TC on this topic. The reporter is J. Schanda.

R1-18?: Use of colour codes under various levels of illumination - The terms of reference are to survey the state-of-the-art on colour codes under various illuminance levels and to judge whether Division 1 should set up a TC on this topic.

Other relevant information

Dr Paula Alessi was appointed as Editor for Division 1.

The 1997 meeting of Division 1 will be held in May 1997, in Kyoto Japan in conjunction with the 8th Congress of the International Color Association.

Canadian Participation in Division 1

Based on the latest information available to me, Canada has representatives on 11 Technical Committees. The Canadian representatives are W. Adrian on TC1-18 and TC1-19; A. Robertson on TC1-27, TC1-31, TC1-38, and TC1-43; W. Cowan on TC1-21 and TC1-37; R. Lakowski on TC1-35; and J. Zwinkels on TC1-44 and TC1-45.



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10 October 1996

TO: CNC/CIE Members and Advisory Members

I recently received the following request for information from Dr. Schanda, Chairman of TC1-33. I do not have access to this type of information. If any of the members of CNC/CIE has the type of data requested and would be willing to provide it to TC1-33, or know where I could obtain it, I would appreciate you contacting me either by e-mail at sharon@dciem.dnd.ca, by phone at (416) 635-2189, by fax at (416) 635-2104, or by mail at the above address. Dr. Schanda would like to have this data by the end of November.

Excerpt from the letter to members of Division 1 from Dr. Schanda:

"Recently you have received from Dr. Denner, D1 Secretary, Draft 6 of CIE TC 1-33 Report for comments. My attention was drawn on the fact that the spectra I received up to now are not representative for current practice and therefore a further correction to the constant "c" coupling the colour rendering index to the calculated colour difference might be necessary.

The TC agreed how to do the calculation, but we need your help in getting the spectra of currently used representative lamps. I wrote directly to colleagues who are associated with General Electric, Osram and Philips, to supply me spectra. It is, however, fundamental in CIE to get unbiased, company independent, or if this is not possible, company averaged data. Thus my request to you is: Please check in your country on manufacturers of non-incandescent lamps and ask them to send me generic lamp spectra for lamps they feel to represent state of the art production. Our intention is to pool all the spectra and calculate the conversion from colour difference to colour rendering in such a way that for the average of this representative sample the average colour rendering index should stay constant. This will enable applicants of the CIE method to accept the new recommendation more easily.

What we need are:

- generic lamps spectrum designations (e.g. "high pressure metal halide with three additives x, y, z),
- the spectra, preferably between 380 nm and 780 nm at 5 nm steps.

I would much appreciate receiving the data by e-mail as an ASCII file and (if possible) as a spread-sheet attachment."

Yours truly,

Sharon McFadden
Canadian Member, Division 1
Human Engineering Sector
DCIEM

Canada

CIE Division 2 (Physical Measurement of Light and Radiation)

Director: Dr. Franz Hengstberger (South Africa)

Secretary: Dr. Yoshi Ohno (United States)

Report to CNC-CIE, November 8, 1996

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The most recent CIE Division 2 meetings were held in Vienna, Austria, on 30-31 August, 1996. Joanne Zwinkels of NRC represented Canada at this session. The following is a summary of the main items discussed during the business meeting.

Administrative Matters

There has been a change in the Division 2 Secretary: Y. Ohno (USA) has taken over from A. Bittar (New Zealand); there were no other changes in the Division 2 officers: Division Director - F. Hengstberger (South Africa); Associate Directors: N. Johnson (USA), T. Goodman (UK), G. Vandermeersch (Belgium); Division Editor - J. Moore.

Division 2 currently has 34 member countries.
Canadian member: J. Zwinkels

TC Meetings on August 30, 1996 at CIE CB:

The following technical committees held meetings:

TC 2-19 (Johnson, USA), TC 2-25 (Zwinkels, Canada), TC 2-32 (Murray, USA),
TC 2-37 (Ohno, USA), TC 2-39 (Rich, USA)
an ad-hoc meeting of TC 2-35 (Mielenz, USA), chaired by Y. Ohno

TC reports received by the Division Editor:

- **TC 2-10** Photometry and Goniophotometry of Luminaries (Vandermeersch, Belgium). This went to Division ballot and received 19 votes: 17 positive, 1 abstention and 1 negative. Negative vote was from Netherlands - reasons given: document does not give precise enough requirements, lack of references, does not refer to IEC documents, problem with glare from luminaires. These issues have been resolved. The TC report has

been published as CIE Publ. 121 and will make two other CIE Publications obsolete: CIE Publ. 24 - Photometry of indoor type luminaires with tubular fluorescent lamps and CIE Publ. 27 - Photometry of luminaires for street lighting. NOTE: Division 2 is sending an information copy of this document to Division 3 (Interior Lighting)

- **TC 2-14** Measurement of Reflectance and Transmittance (Polato, Italy) has produced a 62 page final draft for TC Report.
- **TC 2-33** CIE Standard Colorimetric Illuminants (Mielenz, USA) - original title: Reformulation of CIE Standard Illuminants A and D65
- **TC 2-35** The CIE System of Photometry (Mielenz, USA) - original title: CIE Standard for $V(\lambda)$ and $V'(\lambda)$

There was considerable discussion regarding the differences in format between technical reports and standards documents.

The technical committees currently listed as preparing standards documents are: 2-17[#], 2-33, 2-35, 2-36[#], 2-39^{*}, 2-40

[#] the AD reported that these committees are producing technical reports, not CIE standards.

^{*} the TR for TC 2-39 were changed and approved at the Vienna meeting to produce a technical report only.

Technical Committee Work in Progress

TC 2-04	Secondary standard sources (J. Moore, UK)	Draft is complete and ready for TC ballot except for a new chapter on what features make a standard lamp stable.
TC 2-11	Goniorelectometry of standard materials (J. Hsia, USA)	One negative in TC citing need for more international content. Decision was made to conduct intercomparison between NIST and PTB and include data in report. Target date for new draft is 1997 mid-term meeting. The report will be published in CIE Collection.
TC 2-16	Tristimulus colorimeters (Rastello, Italy)	TC met in India. The current draft includes 3 methods to characterize the quality of spectral responsivity. Draft should be ready soon for TC voting.

TC 2-17	Simulated solar radiation (D. Kockot, Germany)	First part published as CIE Tech. Report No. 85 (1989) Solar Spectral Irradiance. Second part - Solar Simulators for Testing Purposes - deals with technical requirements and practice. Draft document for Part 2 will be circulated for TC comment.
TC 2-19	Measurement of spectral coefficient of retroreflection (N. Johnson, USA)	TC met in Vienna. Third draft was discussed. Document is separated in 2 parts: Part 1 contains the procedures of measurements and a summary of the intercomparison results. Part 2 contains all the intercomparison data. Part 1 will be published as a CIE report and Part 2 will be retained as a CIE archival report.
TC 2-22	Luminous flux of high-pressure sodium lamps (B. Garzo, Hungary)	No report. This TC will be closed and the Hungarian National Committee will be requested to contact the Chairman to give CIE CB material collected to-date for archiving.
TC 2-23	Photometry of street-lighting luminaires (G. Vandermeersch, Belgium)	Chairman will start work on this TC after work for TC 2-10 has been completed. He is looking for TC members from Division 4. This TC will build on 2-10 by providing more info on accuracy requirements.
TC 2-24	Users guide for the selection of illuminance meters. (K. Ganesha, India)	New Chairman. Work has not yet begun but TC meeting is planned for South Africa, 1997.
TC 2-25	Calibration methods and photoluminescent standards for total radiance factor measurements. (J. Zwinkels, Canada)	TC met in May 1996 in Orlando and in Vienna. A 4th draft was prepared and discussed. Next meeting will be either in conjunction with AIC, Japan (May 97) or ISCC in Baltimore (Sept. 97).
TC 2-26	Measurement of the colour of self-luminous displays (R. Berns, USA)	TR were reduced and title of report changed to "Relationship between Digital and Colorimetric Displays of VDUs".

TC 2-26 (cont'd)		Negative votes in Division ballot were retracted. TC report has been published as CIE Publ. 122. A new TC, 2-42, chaired by A. Hansson (UK) will report on the measurement aspect of displays.
TC 2-28	Methods of characterizing spectrophotometers (J. Verrill, UK)	Document has 8 authors (2 Canadian). References need to be finalized and diagrams to be added; draft to be ready for TC ballot by end of the year.
TC 2-29	Measurement of detector linearity (T. Goodman, UK)	TC last met in India. Document requires additional references for methods of measurement and notes or references on factors affecting non-linearity discussed in terms of specific types of detectors (none received to-date). First draft will be circulated next year.
TC 2-30	Diode array radiometry (P. Wychorski, USA)	Bibliography contains over 500 entries which should be available (including searchable abstracts) in disk format with a printed introductory document. Expected completion date of Dec.96.
TC 2-31	Method of characterizing actinic radiometers (M. Poppe, Hungary)	TC has been disbanded.
TC 2-32	Measuring retroreflectance of wet horizontal road markings. (Bradshaw, USA)	New chairman is needed.
TC 2-34	LED measurements (K. Muray, USA)	TC met in London and Vienna in 1996. Third draft was circulated. Proposal is to recommend certain standard measurement conditions.
TC 2-36	Revision of CIE Publ. 54: Retroreflection (J. Rennilson, USA)	Chairman will meet with Division 4 in Oct. 96. Proposal to change terms of reference: intent is to produce a technical report, not a standard, at this time.

TC 2-37	Photometry using $V(\lambda)$ -corrected detectors as transfer standards (Ohno, USA)	TC met in Vienna. It has a new title; a 4th. draft will be circulated to members for review; if comments minor, a final draft will be circulated for TC vote prior to S. Africa meeting
TC 2-38	Flare photometry (F.Denner, S.Africa)	Chairman is collecting members. First draft will be prepared for South Africa meeting.
TC 2-39	Geometric tolerances for colorimetry (D. Rich, USA)	TC met in May 1996 in Gaithersburg and in Vienna. As the TC is preparing a technical report rather than CIE standard, a change of TR was proposed and approved by the Board.
TC 2-40	CIE standard: Characterizing the performance of luminance and illuminance meters (Rattunde, Germany)	TC met in India. Chairman plans to produce first draft by Dec. 96 and meet in S.Africa. This is to be a CIE/ISO standard based on existing CIE published report to include: calibration requirements, description of measurement procedures and uncertainties and classification of meters.
TC 2-41	Photometry in developing countries (B. Bhattacharya, India)	Chairman is selecting committee members. He plans to have 1st meeting next year in South Africa.
TC 2-42	Colorimetry of visual displays. (A. Hansson, U.K.)	Chairman has prepared a draft document. TC member list is being assembled.

Reporterships in Progress:

R 2-05	Visual gloss (J. Taylor, UK)	T. Goodman reported. Report should be ready soon. A TC will probably be set up.
R 2-06	Standardization of measuring geometry for the colorimetry of metallic paints (C. McCamy, USA)	J. Zwinkels reported on ASTM meeting in Orlando in May 1995. ASTM and DIN are cooperating in the writing of an ASTM method.

R 2-09	Absolute cryogenic radiometer (A. Parr, USA)	Brief written report received. CCPR intercomparison is underway with 15 national labs; protocol should be reviewed by CIE for possible use in future intercomparisons among industrial labs.
R 2-15	Colorimetry of lustre pigments (Grosswang, Austria)	Closed.
R2-20	Vocabulary Matters (J. Moore, UK)	ILV is going to be revised under a committee chaired by C. Hermann of the CIECB. She has prepared an electronic format of existing vocabulary and has added new terms introduced in Div.2 Publications.

Reports of Liaisons:

CCPR (A.Parr, USA) No report was received from A. Parr. Director requested R. Köhler (BIPM) to give a report. Five intercomparisons are to be carried out during 1996-98 (pilot laboratory is given in parentheses):

- * • Cryogenic radiometers via trap detectors (BIPM)
- * • Luminous responsivity of $V(\lambda)$ -corrected photometers (BIPM)
- * • Lamp standards of luminous intensity and luminous flux (PTB)
- Precision aperture measurements (NIST)
- Spectral radiance of strip-filament lamps (VNIIOFI)

- * NRC is participating in these intercomparisons

ISO/ TC6 (J.Zwinkels, Canada) J. Zwinkels reported. The WG met 3 times in 1995 in Berlin, Montreal and Beijing. J. Zwinkels attended the meeting in Montreal. The major issues discussed were:

- ISO/ TC6 standardizing and authorized laboratories; in particular, the status of the current NRC-PTB intercomparison of diffuse reflectance scales.
- liaison with ISO/ TC42 and ISO/ TC130 regarding viewing conditions and the application to paper of D50 Illuminant
- ISO draft standards for: CIE Whiteness (D65/10°) and Measurement of Specular Gloss at 20° and 75°.

Proposals for New Technical Committees:

Title: Determination of Measurement Uncertainties in Photometry
(G. Sauter, Germany)

TR: To prepare a CIE recommendation as basis for the determination of measurement uncertainties valid for quantities used in photometry.

Proposed Canadian member: A. Gaertner (NRC)

Proposals for New Reporterships:

Use of detectors as absolute transfer standards for spectroradiometry (N.Fox, UK)

CIE CB Proposal for Future CIE Seminar:

Topic: LED Measurements; Date: Nov. or Dec. 1997; Location: CIE CB in Vienna.

Future CIE Division 2 Meetings:

1997-09 Durban, South Africa in conjunction with CIE Midterm Session

1998 Boulder, Colorado (date TBD) in conjunction with CORM98 at NIST

1999 Warsaw, Poland in conjunction with the CIE 24th Session

Other CIE Division 2 Notes:

- The draft document "The relationship between digital and colorimetric data for computer-controlled CRT displays" prepared by TC 2-26, was received for review. Several editorial changes were recommended.
- Canadian participation in the work of the Division continues at a high level with the following members of Technical Committees:

TC 2-16	A.R. Robertson (NRC)
TC 2-22	A.A. Gaertner (NRC)
TC 2-24	W. Budde (retired from NRC)
TC 2-25, Chairman	J.C. Zwinkels (NRC)
TC 2-28	A.R. Robertson, J.C. Zwinkels
TC 2-29	W. Budde
TC 2-33	A.R. Robertson
TC 2-35	A.R. Robertson
TC 2-39	J.C. Zwinkels, B. Jordan (PAPRICAN)
TC 2-42	R. Munger (NRC)

**CIE DIVISION 3 ACTIVITY REPORT FOR
THE MEETING OF OCTOBER 8-9, LYON, FRANCE**

**submitted by I. Pasini, Canadian Delegate to Division 3
for CNC of CIE Annual Meeting, November 8th, 1996
Pointe Claire, Québec**

These minutes are largely based on the kind contribution provided by Dr. Jim Love, who attended the Division 3 Meeting on my behalf, as I was unable to do so.

1. Directors Report

Dr. Slater, the director (Building Research Establishment -UK), chaired the meeting. Dr. Belinda Collins (USA) conveyed her inability to continue as secretary due to pressures of her responsibilities at the National Institute for Standards and Technology.

Dr. Slater reported that the directors of the CIE had adopted measures to expedite the work of the technical committees. Rather than await unanimity and exhaustive investigation of fields, technical committees would be expected to submit interim reports. These would include sections identifying further work required and sections recording minority (i.e., dissenting) views. Committees of a single person would be allowed. The results would be refereed by two experts, but would not be approved as full technical papers. The directors also decided that they would adopt greater strictness regarding technical committees that were inactive. These would be closed. The directors are also considering means of promoting the efforts of the CIE in a world where funding is becoming increasingly difficult.

The CIE had established a Web site. Its URL (Uniform Resource Locator) is www.cie.co.at/cie/home.html. In response to a question raised by J. Love on behalf of Mr. I. Pasini, the Vice-President (Research), Dr. Hans-Allen Lofberg, indicated that the CIE is positive regarding the establishment of web pages by national committees and technical committees. The only request is that a link to the CIEs home page be included.

Division 2 had advanced its work on photometric data to balloting.

A concern was raised that the CIE technical report on emergency lighting was outdated. J. Love agreed to contact M. Ouellette of the National Research Council of Canada to ask whether he would review the report to ensure that, at the very least, it included no harmful recommendations.

2. TC Reports

TC3-01

Dr. Einhorn communicated that a draft report would be provided at the Durban Meeting.

TC3-11 Daylighting Calculation Methods, Dr. M. Navvab (USA).
No report.

TC3-12 Daylight and Solar Radiation Data for Building Performance. Dr. N. Ruck (Australia).

Dr. Ruck requested that Dr. S. Hayman of Australia be approved as replacement chair. Approved.

TC3-15 Luminance Models, Dr. Matsura (Japan).

It was reported that Drs. Kittler, Perez and two others were making progress.

TC3-16 Psychological Aspects, Dr. Collins (USA).

This report was completed except for some editing. Dr. Belcher (USA) agreed to assume this responsibility.

TC3-19 Photometry, Dr. M. Navvab (USA).

No report.

TC3-20 Lighting and Architecture, H. Kramer.

The chair had developed a set of chapter titles, but no other progress was reported.

TC3-21 CIE/ISO Standard on Interior Lighting, L. Bedocs (UK).

The final draft was ready for publication in the CIE news. Guides were needed for applications in specific fields (e.g., office, retail, industrial, health care, etc.). See new committees.

TC3-22 Museum Lighting, Dr. Neeman (Israel).

Dr. Neeman attended the technical committee meetings, but missed the plenary session, because he was on his way to a meeting of this technical committee, to be held in Berlin.

TC3-23 Variability of Interior Luminous Environment.

Due to inactivity, it was decided that this committee would be terminated.

TC3-24 Energy Aspects of Lighting, Dr. L. Zonneveldt (NL).

It was noted that this is somewhat redundant with a Division 7 committee, but it was felt that this topic is sufficiently important that it should be addressed by Division 3. It was noted that IAEEEL (the International Association for Energy Efficient Lighting) had been very active in this area.

TC3-25 International Daylight Measurement Program, Prof. Nakamura (Japan).

An extensive report was offered in person by Dr. Dumortier (France), the secretary. One of the issues addressed was that of stations unwilling to provide data to other participants. Suggestions included showing these stations as uncooperative in the index of stations. The committee is preparing to place this index on the world wide web. Some stations are also making their data available by this means. An inter-station calibration initiative was another activity of this group.

This TC is interested in making some of the information regarding its activities available on the World Wide Web. The secretary (Dr. D. Dumortier) asked whether this would be acceptable to the CIE. A discussion followed regarding the importance of the sale of CIE publications in funding operations, but the importance of more widely disseminating the work of the CIE was also acknowledged. The Board of Directors is currently considering this question.

TC3-26 Protocols for Post-Occupancy Evaluation, Dr. D. Tiller (Canada).
It was suggested that this committee be closed down due to lack of activity. J. Love agreed to contact Dr. Tiller.

TC3-28 Standard Calculation of Utilization Factors, Dr. B. Bell (UK).
There was some sentiment to drop this committee due to increasing use of computer methods, but the prevailing argument was that it was still important due to the number of persons still relying on manual lighting calculation methods. One of the main improvements on the existing CIE document on utilization factors was to be the addition of spacing to mounting height ratios.

TC3-29 Computer Procedures for Lighting and Visibility, M. Smith (USA).
This committee has not reported and seems to be making no progress.

TC3-30 Hollow Light Guides. Dr. L. Whitehead (Can).
No report.

TC3-31 Electric Lighting for Real Spaces, Dr. D. Carter (UK).
This committee is mainly dealing with light loss due to room contents.

TC3-32 Algorithms for Outdoor Daylight Levels, Dr. M. Navvab (USA).
No report.

3. Reportership

R3-01 Safety and Lighting, G. Irwin (USA).
3.02 G. Irwin reported progress on obtaining information on the incidence of accidents related to poor lighting. Apparently some large corporations, such as AT&T, had kept records on such incidents.

R3-12 Lighting Maintenance, L. Bedocs (UK).
Submitted a report.

R3-13 Vocabulary.
With the resignation of Dr. Collins, Dr. Belcher agreed to work on this project, which primarily involves some editing work.

R3-14 Lighting Quality, Dr. C. Jones (USA).
Dr. Jones (Battelle-Pacific Northwest National Laboratory) submitted a report on lighting quality. She proposed that a technical committee be established on Lighting Quality (see section 6 below).

R3-15 Bibliography of National Lighting Recommendations and Standards, Dr. S. Simos (Switzerland).
Dr. Simos had obtained some of these after contacting the various national committees.

4. Liaison

European Project on Determination of Daylight Availability from Satellite Data

Dr. M. Fontoynt (France) reported on progress. Publication of preliminary

results is expected in the next half year. Results to date show promise.

ISO

A report was received from ISO Technical Committee 160(Glass in Buildings).

A report was received from ISO TC 59 on user requirements.

CEN169, European Standard for Lighting for Interior Spaces

A report was received from CEN (European Standards Organization) Technical Committee 169. It is conducting work on vocabulary, work space lighting, emergency lighting, sports lighting, and photometric data formats.

International Energy Agency

A report was received from the International Energy Agency Task 21 Daylighting in Buildings. To carry out its work, this task group is addressing topics such as monitoring procedures and scale-model photometry. This may eliminate the need for, or contribute to the work of TC3.19, which has recently been inactive.

World Meteorological Organization

Dr. Valko provided a report on World Meteorological Organization activities.

5. Publications

The CIE is in the process of releasing a new publication on the spectral distribution of daylight.

6. New Technical Committees

There was considerable debate regarding the establishment of a couple of new technical committees.

Dr. Jones (see reporters) had proposed the establishment of a TC on Lighting Quality. One of the contributions would be the standardization of data collection for human factors research related to lighting quality.

Another group proposed the establishment of a TC to address the measurement of lighting quality. Some argued that it would not be possible to effectively work on the measurement of lighting quality of the parameters to be measured were still to be defined. Others argued that the committee should more properly be seen as an effort to introduce greater rigour to the measurement of luminous intensity distributions by techniques such as video photometry.

It was decided that both groups should be directed to refine their terms of reference prior to the establishment of these Technical Committees.

It was decided that a TC (3.33) would be established to develop standard data sets for the assessment of software for lighting calculations. Dr. M. Fontoynt (France) would chair this committee. He noted that much of this work would be conducted in the course of IEA Task 21 (Daylight in Buildings).

It was agreed that technical committees be set up to develop application guides related to the new CIE standard for workplace lighting. Chairs are being sought

for these committees. It is hoped that the work can be expedited by making reference to existing documents.

7. Next Divisional Meetings

The following dates were set:

1997, Durban, South Africa. The Divisional Meeting was scheduled for Sept. 4, with Technical Committees to meet on Sept. 3. It was noted that the technical committee meetings would overlap the general assembly, which would also meet on the 3rd. The board would meet on the 2nd.

1998, San Antonio Texas (Early August). A meeting would be set to coincide with the annual conference of the Illuminating Engineering Society of North America.

1999, Warsaw, Poland (Quadrennial Meeting of CIE), June 23-30.

From whitehed@physics.ubc.ca Sat Nov 2 18:12:20 1996
Date: Sat, 2 Nov 1996 10:12:11 -0800 (PST)
From: Lorne Whitehead <whitehed@physics.ubc.ca>
To: Ivan Pasini <pasini@pwgsc.gc.ca>
Cc: Lorne Whitehead <whitehed@physics.ubc.ca>,
Arnold Gaertner <arnold.gaertner@nrc.ca>
Subject: upcoming CIE national committee meeting

Hi Ivan,

I had hoped to be able to attend next week's meeting, to make a brief report on the activities of TC 3-30 (Hollow Light Guides), but my travel budget doesn't allow this. Arnold Gaertner suggested that I e-mail you a brief summary of recent activities, and that perhaps you could report briefly on our behalf.

Please feel free to call (604) 822-3075 or e-mail if you would like any further details.

regards,

Lorne.

Here is the brief summary:

Report to CIE Canada National Committee on Recent Activities of TC 3-30

This committee was originally formed as a reporting task subsequent to a proposal presented at the quadrennial CIE conference in Melbourne. After two years of sustained international effort, we were made a TC, with Julian Aizenburg as chair. Recently Julian has stepped down as chair, and I accepted that role on the understanding that the chair will continue to shift periodically.

The committee was set up to standardize terminology in the new field of illumination with hollow light guides, to identify general scientific problems in this area, and to make recommendations for standards and lighting design methods with hollow light guides.

It has been a bit difficult making progress, because of the variety of perspectives and interests in this diverse committee, but we have produced some tangible results. We have agreed on a few new technical terms to describe hollow light guides, and have produced an unofficial publication on hollow light guide applications, which includes a brief history of the field, the suggested new technical terms, and a bibliography, as well as a compilation of submissions from numerous actual applications of hollow light guides.

As we move into the remainder of the decade, we have several goals, all of which are intended to lead to an official CIE publication on hollow light guides.

- 1) Obtain official acceptance of our recommended new technical terms.
- 2) Increase the level of photometric analysis in an updated series of example applications. Especially, emphasize a standard method of analysis which allows meaningful comparison between different applications.
- 3) Devise a recommended means for measuring the output distribution of hollow light guides in a manner which is compatible with standard lighting design programs.

As we get underway with these tasks, we would appreciate any advice from the CIE CNC, both on the science, or perhaps on organizational issues.

We are not too familiar with the challenges of (1) above, and item (3) is almost certainly going to require some government funded research in new photometric methods (There is already some interest in this area in Sweden and in the US)

Thanks in advance for your interest in this matter.

Lorne Whitehead, Chair, CIE TC 3-30

University of Waterloo, School of Optometry
Dr. W. Adrian

October 31, 1996

Report on the Activities of CIE Division 4 "Lighting and Signaling for Transport" in 1995/96

I just returned from the annual Division meeting which was held at Poitiers, France, from 16 to 22 October. Sixty-two delegates attended the meeting which reflects the dimension and importance of this Division. Two full days with an extension of two Technical Committees into the morning of a third day were taken by Technical Committee meeting with unfortunately 4 parallel sessions, so that the members of committees could not attend all the meetings for which they came. It was suggested to reduce the parallel session to 2 and cut them shorter and strengthen their effectivity. For details what happens in the different committees I refer to the Division 4 activity report of July 1, 96 that is enclosed.

Progress has been made in various committees such as:

TC 4-14 Colours of Signal Lights. The suggestions made in the report have been accepted and are underway to produce a CIE/ISO Standard

TC 4-15 Lighting of Roads for Motor and Pedestrians. The work is dragging on with no end in sight. Controversial opinions on the visibility concept as a quality criterion and the restriction of glare hinder actual progress.

TC 4-19 Road Visibility in Fog. The Last draft was accepted. As Mr. Dubuisson has changed his field of work, Mrs. M. Colomb will continue to work on practical application of the theoretical content of the report.

TC 4-24 Tunnel Lighting Quality Criteria. This rather active committee suffers from the lack of the latest practical and scientific input. The new North American Standard was not known to the chairman. In addition, no results of recent investigations on Reflection properties of materials used in tunnels for various observation angles are incorporated in the work.

TC 4-25 Road Surface and Road Marking Reflection Characteristics. The replacement of Q_n by the easier to measure Q_d (diffuse reflection) does not satisfy according to a Belgian Study. A new system using S_1 , S_2 and an additional ratio was presented that would not require Q_n or Q_d . Future will show if it is viable.

TC 4-33 Discomfort Glare in Road Lighting. Discomfort glare was disregarded in the present Road Lighting draft due to the wrong assumption that it can be controlled by the disability glare term T_I (Threshold Increment). Comparison studies focused on the CBE-Formula and the proposed CIE-System. Log CBE was found in Linear relationship to the CIE - Glare control mark GCM. A recommendation how to evaluate discomfort glare will be presented at the meeting scheduled for September 1997 in Durban, South Africa.

TC4 4-36 Visibility Design for Roadway Lighting. The committee is fraught with educational tasks to familiarize the experts with the basics of the visibility concept. Some progress has been made.

"Pupil Lumen"

It has been shown by two publications that the unit "pupil lumen" promoted by S. Berman, Cal, is no issue and does not need to be further discussed.

The full session of Division 4 had overtones of great concern about the future of Division 4 and the CIE as a viable organization. The Division director developed a strategy containing valuable points that were thoroughly discussed.

The French Colleagues hosted the meeting with splendor. However, it was generally felt that more emphasis should be placed on more economical Hotels for the meetings.

CNC/CIE 41st ANNUAL MEETING
November 8, 1996 - 9:00AM to 5:00PM
Pulp and Paper Research Institute of Canada
Pointe-Claire, Québec

DIVISION 5 ACTIVITY REPORT

Date: November 1, 1996

From: Jacques Roberge, Eng., Member, Div.5, CIE
c/o ECLAIRAGE LITHONIA CANADA
5650, rue Trudeau
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J2S 1H4
Phone: 514-773-5503
Fax: 514-773-0936
E-Mail: jaroberge@lithonia.com


To: Members and Associate Members, CNC/CIE

After a flurry of activity prompted by the last Quadrarium meeting in New Delhi, India, in November 1995, 1996 has turned out to be a very quiet year for Division 5.

No Division 5 Activity Report was received from the new Division Director, Dr. Horvath, presumably because there was little to report. I have received no invitation to attend any meeting of the committees of which I am a member, and have not heard of any other Division 5 committee meeting taking place since.

You will however find attached a summary of the minutes of the New Delhi Division 5 meeting that I commented verbally about at the 40th CNC/CIE meeting last year, together with a more detailed Div.5 Meeting Report prepared by Dr. Jozsef Horvath.

The full minutes are also available upon request for immediate delivery to any interested attendee, or by mail. Since I have attended the Division 5 meeting and have files on a number of TC's, I may be able to help with further information that you may be interested in, regarding the subjects mentioned.


Jacques Roberge

TEL: 514-773-5503
FAX: 514-773-0936
E-MAIL: jaroberge@lithonia.com

Meeting of Division 5
Held in New Delhi, India, Tuesday Nov. 7, 1995

SUMMARY OF MINUTES

The meeting was attended by 37 people from 15 countries. Eight were members, five carried delegated votes.

Wout van Bommel is becoming a vice-president of the CIE, after 10 years as chairman of Div.5.

Dr. Jozsef Horvath, Hungary, is replacing him as Chairman of Div. 5.

Bob Hargroves, Great Britain is continuing as Division Secretary

Pranab Bandyopadhyay, India, replaces Dennis Culley, South Africa, as Div. Editor.

Technical Reports in the last quadranium (*see attached Meeting Report for more info*):

a) **Published:**

- # 94, Guide for Floodlighting (1993) (former TC5-06)
- # 112, Glare. Evaluation System for use within Outdoor Sport and Area Lighting (1994). (former TC5-04)

b) **Ready for voting:**

- TC5-03 - "Open-cast Mine Lighting"
- TC5-13 - CIE/ISO Standard for Lighting Exterior Working Areas.

c) **Edited:**

- TC5-09 - Illuminance Levels for Sports Events (CEN 169/WG4)

d) **Advanced stage:**

- TC5-08 - Off-shore Lighting
- TC5-12 - Obstrusive Light
- TC5-11 - Practical Design Guide lines for the Lighting of Sports for CTV and Films.
- TC5-14 - Maintenance of Outdoor Lighting Systems

e) **Active:**

- TC5-15 - Tolerances in Lighting Design

f) **May be dismissed for lack of activity:**

- TC5-10 - Exterior Security Lighting

g) **At Reporter stage:**

- R5-03 - Lighting of Sports Events for High Definition Television.

Work program for next Quadranium:

- a) try to revive TC5-10
- b) consider new TC on:
 - Helideck Lighting (possibly joint TC with Div.4)
- c) - continue reporter's work on RD-03 (J. Livingstone)
 - new reporter appointed on Semi-Cylindrical Illuminance (P. Rombauts)
 - appoint reporter on Glare formula for very dark areas
- d) improve liaison with CEN (A. Stockmar, Germany, appointed liaison officer)

Suggestions for next session:

- Make sure workshops do not turn into lectures by one or two individuals.
- Stay open to constructive criticisms about draft contents.
- Do not overlap sessions and TC meetings, have TC meet on Saturday if needed.

Next meeting: (1997)

Netherlands and South-Africa made invitations. Div.5 voted 8 to 4 in favor of Amsterdam, so Div.5 meeting will take place at the time of Lux Europa in the spring of 1997.

On the other hand, the General Assembly will have its Mid-term Meeting in Durban, S.A. in Sept. 1997, because proper facilities could not be offered in Amsterdam.

A copy of the Nov. 7, 1995 Meeting Report prepared by the new Division Director in February 1996 for publication in volume 2 of the 23rd Session proceeding is attached, to provide more details.

Full minutes available upon request from J. Roberge, Member, Div.5.

Division 5 Meeting Report

József Horváth

1. General

The beginning of the one-day meeting of Division 5 dealt with administrative matters such as:

- apologies
- approval of minutes of last meeting: Newark, May 1994.

The Division accepted the Division Director's Report (see Proceedings of the 23rd Session of the C.I.E., Volume 1., page 375.), the Secretary's Report and Editor's Report.

2. Technical Committee Reports

The Division discussed the reports of TC's chairmen as follows:

TC 5-03: Open-Cast Mine Lighting (P.K. Bandyopadhyay)
The latest draft report has been circulated to all members. The Chairman gave an exposition on open-cast mining techniques and the related lighting recommendations. The presented draft is practically ready and after some verifications the voting procedure can start.

TC 5-08: Lighting Off-Shore Gas and Oil Structures (H-H Björset)
Mr Björset presented slides to illustrate his report which was a summary of his paper at the CIE session. More investigation is needed.

TC 5-09: Illuminance Levels For Sport Events (T.M. Lemons)
In Mr Lemon's absence, the Director outlined progress. The aim is to write a technical report, followed by a CIE/ISO standard. A delay in the work

was agreed in Newark pending the finalising of the CEN report. The CEN report is now awaiting circulation, so further work in this TC will wait until a clearer situation is evident. If the CEN report is accepted (in Europe) it should be easy to make a CIE/ISO Standard incorporating any relevant additions from the CEN report.

TC 5-10: Exterior Security Lighting (P C Joye)

The Director stated that there has been no progress since the Edinburgh meeting in 1993. The future of the committee was discussed then and it was thought likely this TC would be dismissed. But the Division found that more experts were needed on the committee. The Division Director will act to renew this T.C.

TC 5-11: Practical Design Guidelines for the Lighting of Sport for CTV and Film (R A Hargroves)

The Chairman presented his report on the 4th Draft issued in October 1994. Diagrams still need to be added, together with a few items on specific sports. It is intended that the draft will be circulated to the Committee for voting early in 1996.

TC 5-12: Obtrusive Light (A J Fisher)

The Director emphasised this report also applies in Division 4. It is disappointing that so few comments have been received for such an important report. This report requires careful study, but the values need

checking against current design.

It was agreed that the Chairman will finalise the report in the new Year and it will be sent out for National/Board ballot. A longer period for returning the vote will be given, to enable checking of values to be carried out.

TC 5-13: CIE/ISO Standard for the Lighting of Exterior Work Areas (J Horváth)

The Chairman presented a summary of the standard which is 6th draft and ready to vote. TC voting gave 14 acceptances and 1 rejection. The draft will be circulated to Division Members for voting.

TC 5-14: Maintenance of outdoor lighting systems (N E Pollard)

The committee is now on its Third Draft which was put together in January 1995 following much correspondence between members and two meetings, one in Newark, USA and a second impromptu meeting during the Division 4 session in Liege, Belgique. The document is based on the CIE publication No. 97. "Maintenance of indoor lighting systems". Publication is targeted for October 1996.

TC 5-15: Tolerance in Lighting Design (A J Fisher)

This is a new committee now one year old and has had one meeting (September 1994, in England). The subject was discussed using a workshop and the objectives and contents of a technical report were agreed. There has been little input from committee members so far, so that a 1st Draft could not be prepared for the Division Meeting.

A workshop was held in Delhi and the objectives and report contents were endorsed. However, the complexity of the

subject was stressed and the need to restrict the scope of the work, so a short time target can be achieved. The Chairman gave a public undertaking to produce a draft report within one year. This should be possible now the birth pangs of the committee appear to be over.

3. Reporters

The Meeting continued with reports.

R 5-03: Lighting of Sports Events For High Definition Television (J Livingstone)

In absence of reporter the Division Secretary Mr R A Hargroves stated that Mr Livingstone's report had been circulated to all members. In summary, it appears unlikely that a new HDTV channel would come into service before 2000. Some change in lighting levels may be necessary as a result of reduced depth of field, and also possibly changes in camera and lens sensitivities. NHK of Japan have greatest experience in HDTV and should be consulted on the lighting aspects. It was agreed that Mr Livingstone should be asked to continue his reporting role, and if possible contact NHK for their views.

4. Work Programme

New TC's

- Dr Fisher asked about the application of the glare formula in very dark areas. This had been raised twice during this session. In the original study, Mr Wout van Bommel said it was intended to study this. He recommended a reporter on this topic.
- Helideck Lighting. The possibility of a joint Division 4 and 5 TC was suggested. Mr H-H Björset said CIE should define the lighting criteria needed for take-off and landing.

Actual levels are far less than claimed. H-H Björset will issue a report on the problem so that the appropriate action can be taken.

Reporting Topics

- HDTV J Livingstone to be asked to continue. Re. CIE '83, TC 5-11 will reply to J Livingstone's comments.
- Semi-Cylindrical Illuminance. J Lecocq is investigating this subject and R Yates has included it in the Urban Lighting Publication, yet there seems to be a reluctance to use it. There was a proposal for a paper in the CIE collection reviewing the use of this parameter, including literature survey. Mr P Rombauts was appointed Reporter on this topic.

Liaison Matters

CEN Liaison is very desirable: A Stockmar appointed as Liaison Officer.

5. Officers for the next quadrenium (1995-1999)

Director: Dr. J Horváth (Hungary)
Secretary: R A Hargroves (U.K.)
Editor: P K Bandyopadhyay (India)
Liaison Officer (CEN): A Stockmar (Germany)

6. Date and venue of next Meeting:

Netherlands will be the venue of next Division 5 Meeting in Spring 1997 to link with the Lux Europe Conference.

Budapest (Hungary)
Dr. J. Horváth
Division 5 Director

Spennymoor, County Durham (Great Britain)
R.A. Hargroves
Division 5 Secretary

1996 ANNUAL REPORT CIE DIVISION 5

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:

- Open cast mine lighting;
- Exterior security lighting;
- Sports lighting;
- Lighting for off-shore structures;
- Restriction of obtrusive light;
- Tolerances in lighting;
- Maintenance of outdoor lighting systems;

The officers of Division 5 for the quadrennium 1995/1999 are:

- Division Director: dr. J. Horváth (H)
- Division Secretary: R.A. Hargroves (GB)
- Division Editor: P.K. Bandyopadhyay (India)
- CEN Liaison officer: A. Stockmar (D)

The present Technical Committee structure is:

TC 5-03	Open cast mine lighting Chairman: P.K. Bandyopadhyay (India)
TC 5-08	Lighting for off-shore gas and oil structures Chairman: H.H. Björset (Norway)
TC 5-09	Illuminance levels for sports events Chairman: T.M. Lemons (USA)
TC 5-10	Exterior security lighting Chairman: P.C. Joye (Switzerland)
TC 5-11	Practical design guidelines for sports lighting installations for CTV Chairman: R.A. Hargroves (Great Britain)

- TC 5-12 Obtrusive light
Chairman: A. Fisher (Australia)
- 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: A. Fisher (Australia)

2. MEETINGS

In 1995, Division 5 had a Meeting in New Delhi (India) in conjunction with C.I.E. Congress. We have no information about T.C. meetings during the year of 1996.

3. PROGRESS OF TECHNICAL WORK

TC 5-03 OPEN CAST MINE LIGHTING (P.K. Bandyopadhyay)

The latest draft report has been circulated to all members of Committee. The draft is practically ready and after some verifications the voting procedure can start.

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

The work is continuing trying to active the first daft of report. ICAO (International Civil Aviation Organisation) is touched also of this subject. More investigations and studies are needed.

TC 5-09 ILLUMINANCE LEVELS FOR SPORT EVENTS (T.M. Lemons)

In Mr. Lemon's absence, the Director outlined progress. The standard. A delay in the work was agreed in Newark pending the finalising of the CEN report. The CEN report is now awating

circulation, so further work in this TC will wait until a clearer situation is evident. If the CEN report is accepted (in Europe) it should be easy to make a CIE/ISO Standard incorporating any relevant additions from the CEN report.

TC 5-10 EXTERIOR SECURITY LIGHTING

(P.C. Joye)

The terms of reference of this committee are "Study and consider matters of exterior security lighting for private houses, residential areas, office buildings, banks, airports, prisons, exterior working areas, energy supply facilities, international boundaries, etc. as a deterrent to crime and enable detection, as part of an integral security installation, with the intention of producing a guide". There has been no progress on this committee since 1993. The future of the committee was discussed then and it was thought likely this TC would be dismissed. But the Division found that more experts were needed on the committee.

TC 5-11 PRACTICAL DESIGN GUIDELINES FOR SPORTS LIGHTING
INSTALLATIONS FOR COLOUR TELEVISION

(R.A. Hargroves)

The guide being prepared by this TC will give practical advice on the realisation of the recommendations for sports lighting for colour television and filming laid down in CIE Publication No 83 (see Section 3.5). 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 4th advanced draft is available. It is intended that the draft will be circulated to the Committee for voting within a short period.

TC 5-12 OBTRUSIVE LIGHT

(A. Fisher)

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." (For the latter problem CIE Division 4 has established a Technical Committee). Only a few comments have been received for such an important report. This report requires careful study, but the values need checking against current design.

The Chairman will finalise the report and it will be sent out for National Board Ballot. A longer periods for returning the vote will be given, to enable checking of values to be carried out.

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

(J. Horváth)

Based on the existing CIE Publication 68-1986, an CIE/ISO standard is being drafted. A complete final draft is available, T.C. voting procedure was over and gave 14 acceptances and one rejection. Later on the balloting procedure was done within the Division Members with following result:

Answer: 17

Approval without comment: 12

Approval with editorial comment: 3

Approval with technical comment: 1

Rejection: 1

The rejection vote was sent because of the lack of adjustment with CEN (CEN is dealing with the same subject).

Now we need a consultation with CEN before closing the matter.

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 3th draft report 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(A. Fisher)

This committee was found in 1994.

There has been little input from committee members so far, so that a 1st Draft could not be prepared for Division Meeting.

A workshop was held in Delhi and the objectives and report contents were endorsed. However, the complexity of the subject was stressed and the need to restrict the scope of the work, so a short time target can be achieved. The Chairman gave public undertaking to produce a draft report.

REPORTER R 5-03 THE LIGHTING FOR SPORTS EVENTS FOR HIGH DEFINITION TELEVISION(J. Livingstone)

The aim is to study whether a Technical Report can be produced as an annex to CIE Publication 83-1989 (Guide for the lighting of sports events for colour television and film systems). J. Livingstone (GB) produced a report that was discussed at the November 1995 New Delhi Session and the report had been circulated to all members. In summary, it appears unlikely that a new HDTV channel would come into service before 2000. Some change in lighting levels may be necessary as a result of reduced depth of field, and also possibly changes in camera and lens sensitivities. NHK of Japan have greatest experience in HDTV and should be consulted on the lighting aspects. It was agreed that Mr Livingstone should be asked to continue his reporting role, and if possible contact NHK for their views.

REPORTER 5-04 SEMI-CYLINDRICAL ILLUMINANCE(P. Rombauts)

J. Lecocq is investigating this subject and R Yates has included it in the Urban Lighting Publication, yet there seems to be a reluctance to use it. There was a proposal for a paper in the CIE collection reviewing the use of this parameter, including literature survey. Mr Rombauts was asked to report on this topic.

4. LIAISON MATTERS

CEN Liaison is very desirable: A Stockmar (D) was appointed as Liaison Officer.

5. ACKNOWLEDGEMENT

Without the time, energy and especially the enthusiasm of many volunteers the work of Division 5 would never have progressed.

Thanks for everybody.

dr. József Horváth, Budapest, April 4, 1997.

**CIE DIVISION 6, Photobiology and Photochemistry
Report to the Canadian National Committee**

Delegate: Jennifer A. Veitch, Ph.D.

The Division 6 meeting was held in Vienna at the CIE Central Bureau on September 6, 1996. I was not able to attend, but received the minutes by electronic mail from Division Director, Dr. David Sliney. This report is an abbreviated, edited version of those minutes. I would be pleased to provide a complete copy upon request.

1. TC 6-13 Lighting Aspects of Large-Scale Plant Growing in Completely Protected Environments ('Dark Rooms')

A problem had arisen with in that the chair had not responded to correspondence for three years, and there was another proposal to establish a committee on a related topic. After discussion, TC 6-13 was dissolved at a new committee with new Terms of Reference was established:

TC 6-42, Lighting Aspects for Plant Growth in Controlled Environments.

Terms of Reference: Define the general pre-requisites for growing terrestrial plants in controlled environments and the characteristics of both commercial and research facilities. Discuss the economic constraints of commercial production facilities, and the critical optical radiation parameters for successful culture. Examine the interaction of optical radiation with other environmental parameters. Identify new and current optical sources suitable for plant culture.

2. Technical Committee Reports (Partial List)

TC 6-04 (Mueleman) on terminology will shortly propose a glossary of 100 terms.

TC 6-11 (Brainard) on systemic effects of optical radiation on humans had the problem of an overly large report. Dr. Brainard was attempting to summarise the neuro-endocrine effects. L. Ronchi suggesting combining TC6-11, 6-16 and 6-17; however, despite their similarity it was decided that so much work had been done in these areas and the disciplines were rather different, that they not be combined.

TC 6-15 Nills Svendius on a computerised report method for absorption and reflection in the human eye is not likely to be able to complete this project. Dave Sliney will ask Dr. Svendius if he will resign from the chairmanship, and if he will then Wesley Marshall in the US will be invited to provide his program and complete the project.

TC 6-16 D. Sliney reported that he had recently received a fax from Kuller regarding the scientific work in this area and that TC 6-16 would soon meet to discuss a draft report.

TC 6-17 Ms. Ronchi explained that it was not likely that her contribution could be much further reduced and she asked the DD what should be done. After a lengthy discussion on the broad aspects of spatial and temporal aspects of lighting, it was decided that the TC 6-17 be disbanded.

TC6-20 on Phototoxicity in Domestic and Industrial Environmental Environments decided that a list of phototoxic compounds will be completed by December in 1996, and a standardised laboratory test protocol for determining the risk of phototoxicity. The next meeting will be held in San Francisco in February 1997, and the final meeting was scheduled for Stresa, Italy in September 1997. The report should be completed by the TC in December 1997.

TC 6-24 on Sunscreen Testing is working to have CIE credited for its UVB sunscreen testing procedure, which was copied by the association of cosmetic chemists, COLIPA, Brussels, Belgium.

TC 6-26 had its final editorial meeting on Sept. 4 in Vienna. Border wavelengths of 280 nm and 315 nm will remain for UVB, and an official division of UVA1 and UVA2 will not be made at this time.

TC 6-28 on a standard method is unlikely to complete a report for several years because there are deep divisions in the scientific community on the approved method. There was some discussion about this at the International Congress on Photobiology which met in Vienna 1-6 September 1996.

TC 6-31 on Immediate Pigment Darkening (IPD) did not meet, but Dr. Cesarini agreed to complete the final report by December 1996.

TC 6-38 (Sliney) on Lamp Safety Standards. Sliney described the results of the TC meeting at the CB in May 1996. He also presented a briefing on progress in the US on an IESNA RP27 standard on the photobiological safety of lamps. The final draft was now prepared for vote within the TC.

TC 6-41 (Weatherhead) on a UV index has now a draft report. She will circulate it shortly within the TC.

3. Reporterships

Melanocytic skin cancer. It was proposed and approved to appoint JP Cesarini as a reporter R6-32 on UVA and skin cancer. It would be based upon the material presented in a workshop held at New Delhi.

Reporterships that have not been active will be closed (skin colour, Sferlazzo, Wald).

4. Other Business

Gerrit van den Beld, the new Division 6 representative from the Netherlands suggested that there was a communication problem in Division 6. He had sent out a letter in March to all active 24 TC chairs to ask for a status report of their TC and for a copy of the latest draft. He stated that he had received replies from 13 out of 24 active TCs; whereas, only six of the 13 had provided copies. Dr. Schanda explained that this was not the normal procedure for Division Members to receive individual reports, etc., but they received their information from progress reports in the Newsletter and from the terms of reference. They would receive reports only when the TC work was completed. Dr. Sliney explained that this was not really suggestive of a communication problem, but very often progress of some TCs took years in order to reach consensus on controversial subjects.

L. Ronchi suggested that a D6 Reporter be created to watch carefully all of the work of other CIE divisions and to report on areas of overlap or of D6. Hengstberger strongly agreed with this proposal. Dr. Schanda explained that this was not necessary since the Division Directors Meeting considered this aspect. Mr. Hengstberger suggested that there was still a need for a photobiologist to be constantly watching the work of other Divisions from the standpoint of D6. Dr. Schanda suggested that there were two possible approaches: that Division 6 appoint a reporter to scour the progress reports, or to rely on the current system where the DD votes on the formation of all new TCs.

As another new item the Division noted the continued for an applied spectroradiometry document for photobiologists. Dr. Sliney noted that he would look into a potential TC chair, such as R. Gross (USA), and make a proposal for a new TC with input from Division 2 before the next Division 6 meeting. It was decided that Dr. Sliney would discuss this at the Division Director's meeting on Sunday.

Next Meeting

Thursday 5 September, 1997 at 09:00 in Durban, South Africa.

November 1, 1996

**CIE - CNC
ANNUAL REPORT - GENERAL ASPECTS OF LIGHTING**

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Review of recent developments:

There has been little activity and almost no correspondence during the year since the Delhi meeting.

TC 7-03 Development of Lighting

The main task is to understand the trends of lighting systems in CIE countries including general lighting, energy consumption for lighting and the portion of lighting energy with respect to the total energy consumption. Following a lengthy report by Dr. Dvoracek in the Delhi meeting, Nov. 6, 1995, TC 7-03 was disbanded.

TC 7-06 Lighting Terminology - Chair: Christine Hermann (Austria)

Ms. Hermann has established a data base at the central bureau. GE (USA) has contributed US\$2500 to aid the work of the TC. A list of current terms and proposals for amendments will be circulated to division representatives and other TCs.

Ms. Hermann will be liaison officer for organizations such as Permanent Intern. Organ. of Road Congresses (PIARC).

Dr. Reiner Rattunde (Germany) will act as Liaison officer for IEC/ TC 34 - lamps.

TC 7-08 Lighting Research Overview - Chair: R. Vincent (USA)

The purpose is to determine if a global data base of current lighting research can be compiled and to determine lighting research needs. A methodology for collection research abstracts from CIE member countries has been tested with a collection of 151 abstracts. Mr. Vincent is pursuing methods of disseminating information including the Web.

Reportership on Energy and Environmental Aspects of Lighting - Division Reporter: P. Bleasby (USA)

Mr. Bleasby's report titled: "Energy and Environmental Aspects of Lighting" has been tabled at the Delhi conference, circulated to TC representatives and will be expanded with additional information from various member countries. This report, received Jan. 1996, included additional information for the EU from Mr. L. van Kollenburg and abstracts of three papers presented to the IAEEEL Right Light Conference as reported by Mr. N. Pollard (UK). No further up-date to the Bleasby report has been received by R. White.