

Minutes of the 19th Annual Meeting of the  
Canadian National Committee of the CIE

(Held in the Physics Building, National Research Council,  
Ottawa, 29 November 1974)

Present

Members: Prof. M.G. Bassett (University of Toronto)  
Mr. W. Budde (NRC), President  
Mr. J.M. Chorlton (Harjohn Industries)  
Mr. G.E. Davidson (Ontario Hydro)  
Mr. G.F. Dean (Consulting Engineer, Toronto)  
Mr. F.R. Dorward (Angus Butler Engineering)  
Mr. D.W. Frick (CBC)  
Dr. P.K. Kaiser (York University)  
Mr. A. Ketvirtis (Foundation of Canada)  
Mr. A.T. Orr (Orcons)  
Dr. A.R. Robertson (NRC), Secretary  
Dr. C.L. Sanders (NRC), Vice-President  
Mr. C.W. Shearer (CBC)  
Dr. G. Wyszeccki (NRC)

Other Delegates: Mr. S.W. McKnight (Canadian Westinghouse)

Members of

Subcommittees: Mr. D. Hemmings (Noranda Research Centre)  
Mr. A.L. Job (Dept. of Energy, Mines & Resources)

Absent

Members: Dr. P. Manning (Nova Scotia Technical College)  
Dr. J.D. Moreland (University of Waterloo)  
Mr. G.E. Mulvey (Mulvey Engineering)  
Mr. J.C. Wilson (Wilson Lighting)

1. Call to order and approval of agenda

The President opened the meeting at 10:05 a.m. He presented a revised agenda, which was approved unanimously.

2. Minutes of 18th annual meeting

The Secretary read the minutes of the 18th annual meeting. Mr. Chorlton proposed their approval, seconded by Mr. Orr. The proposal was carried unanimously.

### 3. Secretary's report

The Secretary read his report, which is attached to these minutes. A motion for the approval of the report was made by Prof. Bassett, seconded by Dr. Kaiser and carried unanimously.

### 4. Business arising from the minutes and the Secretary's report

Dr. Wyszecski commented that UNESCO's attitude to the request for funds was more negative than was implied by Dr. Harrison's letter.

Mr. Orr asked what was the present status of the questionnaire on "Lighting Research in Canada". The President replied that Dr. Kaiser had prepared a new questionnaire that could be circulated to whatever addresses were suggested. He mentioned that NRC's Division of Building Research was advertising for a research engineer to work on the lighting of buildings. Mr. Ketvirtis said that his company (FENCO) was involved in research on visibility and traffic accidents. Mr. Orr congratulated FENCO on keeping some research funds in Canada. Dr. Kaiser mentioned the NRC PRAI program (Project Research Applicable in Industry) that tries to bring industry and universities together in research products. Mr. Orr suggested that the CNC should be asked to comment on any applications to PRAI that involve lighting. He also said that many Canadian companies are too small for in-house research, and that therefore there is a need for a central body for research projects. It was agreed that the new questionnaire should be circulated as soon as possible. The President said he would obtain some address lists from NRC's Division of Building Research and Mr. Orr said he would select from those lists the organizations that might be interested in lighting research and to whom the questionnaire should be sent. Two questions would be added: (i) Have you been granted research funds, and, if so, by whom? (ii) Do you know of any organization that might be able to undertake lighting research?

At a later stage of the meeting, Dr. Kaiser said that he had been in touch with Mr. F. Zuana of the Information Exchange Centre of CISTI (the Canadian Institute for Scientific and Technical Information). The Centre produces annually a Directory of all federally supported research. This directory costs \$50 and is available in most libraries. It is also possible, for another \$50, to obtain a computer search of key words in the titles and (soon) the descriptions of the research projects.

Mr. Dean suggested that the word "non-sensory" in the title of Study Group E should be "non-visual". Dr. Wyszecski said that the question of the name as well as the scope would be re-examined if the Study Group recommended the formation of a Technical Committee.

5. Plans for the 1975 London Session of the CIE

The President announced that 18 people had submitted Preliminary Enrollment Forms to be members of the Canadian delegation, including 5 who are not members of the CNC. In addition, Mr. G.H. Cornish of the City of Calgary would, as President of IES, be a member of the U.S. delegation. Prospectuses for 5 papers have been submitted from Canada to the Action Committee.

Mr. Davidson mentioned an international light and vision symposium in Cambridge, England on 4-5 September, 1974, and some IEC Sessions in The Hague later in September. 5

Dr. Wyszecski said that the Action Committee had rejected about 30 papers and accepted about 80, some for pre-sessional meetings. A list will be circulated soon by the Central Bureau. It is likely that only abstracts will be pre-printed and that the cost of one copy of the Proceedings will be included in the registration fee, with further copies available for general sale afterwards. Mr. Hemmings asked if post-deadline papers would be accepted. Dr. Wyszecski said no, but suggested that such material might be presented at a meeting of the appropriate Technical Committee, with the approval of the Chairman.

Answering Dr. Kaiser, the President said that there was some chance that NRC would give some financial support to members of the Canadian delegation who are from universities.

6. CISTA request for reconstruction of the CNC/CIE

The President explained that he had received verbal information from Mr. Gauvreau, Secretary of CISTA (the NRC Committee on International Scientific and Technological Affiliations), concerning decisions made at the CISTA meeting on November 25. He said that CISTA will request an enlargement of the CNC Executive Committee to 7 or 8 members, geographically well-distributed. CISTA will retain the right to appoint members of the Executive Committee but other members of the CNC can be appointed by the CNC itself without CISTA approval. The President proposed that 3 or 4 new Executive Committee members be appointed now, retaining the present 4 members until after the London Session in 1975.

Mr. Frick commented that CISTA was in error in noting absence of representation from Quebec since two members of the CNC and one other delegate were from Quebec.

Answering Mr. Orr, the President said that he did not think CISTA would allow 4 members of the Executive Committee to be from NRC after 1975, but he hoped that, to avoid disruption of the CNC, the present four could remain until then.

Mr. Orr and Mr. Shearer suggested that for convenience the quorum for the Executive Committee should be small. Dr. Kaiser agreed because some members would be 3000 miles apart. The President said that most business could probably be handled by telephone.

Mr. Davidson asked whether the officers of the CNC could now be from outside NRC. The President said yes. He added that he would not be prepared to continue as President after 1975 and hoped that his successor would be from outside NRC. Dr. Wyszecski agreed and said it would be very beneficial for the President of CNC not to be from NRC next time.

After some discussion, Mr. Shearer moved that the CNC nominate Mr. Dorward, Mr. Frick and Dr. Manning as members of the CNC Executive Committee. Mr. Orr seconded, and the motion was passed unanimously.

The President suggested that some By-law changes would be worthwhile now that CISTA would be concerned only with the Executive Committee. After some discussion the following changes were agreed on:

- (i) All Canadian delegates to CIE Technical Committees and Study Groups should automatically become members of the CNC.
- (ii) The annual meeting should be in the last quarter of the calendar year, but not necessarily in October.
- (iii) Changes in the By-laws can be made by a simple majority vote of the Committee. Other decisions can be made by a simple majority of those voting, provided a quorum is achieved.
- (iv) The duties of the Executive Committee are to act as a liaison with CISTA.
- (v) Members should normally be appointed for 4-year terms, expiring after a CIE General Session, but shorter provisional appointments should be allowed.

The Secretary agreed that after official notification of CISTA's decisions, he would draft a new set of By-Laws and circulate them to members of the CNC for comment.

## 7. Appointment and Re-appointment of Members and Delegates

Under the assumption that the CNC can now appoint its own members, Messrs. Chorlton, Manning, Moreland, Shearer, Wilson and Wyszecski were re-appointed for a further one-year term, expiring 31 December 1975.

The President said that Mr. Dillon had resigned as Canadian Delegate to CIE TC-4.5 (Exterior Lighting). Mr. S.W. McKnight agreed to take over, provided his company allowed him to.

The President said that it appeared that Mr. MacGowan, Canadian delegate to CIE TC-4.2 (Daylighting) was no longer resident in Canada. The Secretary would ascertain whether this was true, and if so, ask Mr. MacGowan to suggest a successor. If no other suitable candidate could be found, Prof. Bassett said that she would be prepared to be the delegate to this Committee.

## 8. Discussion of reports from delegates to CIE Technical Committees

TC-1.1 (Definitions and Vocabulary): No activity.

TC-1.2 (Photometry and Radiometry): Dr. Sanders presented his report and distributed a questionnaire about the working program for TC-1.2 in 1975-1979.

TC-1.3 (Colorimetry): Dr. Wyszecski presented his report.

TC-1.4 (Photopic, Mesopic and Scotopic Vision): Dr. Kaiser presented his report. Dr. Wyszecski said that Dr. Kinney, the chairman of TC-1.4 had been invited to present a paper at the London Session explaining the activities of her committee and other workers which may lead to a new, improved system of photometry.

TC-1.5 (Fundamentals of Lighting Calculations): Prof. Bassett presented her report.

TC-1.6 (Fundamentals of Visual Signalling): No report.

TC-2.1 (Sources of Visible Radiation): Mr. Dorward presented his report.

TC-2.2 (Sources of UV and IR Radiation): Mr. Budde presented his report.

TC-2.3 (Photometric Characteristics of Materials): Mr. Budde presented his report. Dr. Wyszecski commented that the future of TC-2.3 was under review, and that its various subcommittees might be transferred to other related Technical Committees such as TC-1.2 and TC-1.3.

- TC-2.4 (Luminaires): Prof. Bassett presented her report.
- TC-3.1 (Visual Performance): Mr. Chorlton presented his report.
- TC-3.2 (Color Rendering): Dr. Robertson presented his report.
- TC-3.3 (Fundamentals of Physical Engineering): No report.
- TC-3.4 (Discomfort Glare): Mr. Chorlton presented his report.
- TC-3.5 (Lighting and the Environment): Dr. Manning's report was not available.
- TC-4.1 (Interior Lighting): Mr. Dean presented his report. Mr. Hemmings explained some new proposals for luminaires for mine lighting. He said that it was important to improve the environment in mines because, in view of the energy shortage, more miners are needed. Dr. Wyszecski suggested that a mine-lighting subcommittee of CIE TC-4.1 might be useful as well as the existing CNC subcommittee.
- TC-4.2 (Daylighting): No report.
- TC-4.3 (Lighting for Stage and Studio): Mr. Shearer presented his report. Concern was shared by members of the CNC that CIE TC-4.3 continues to do very little.
- TC-4.4 (Sports Lighting): Mr. McKnight presented his report.
- TC-4.5 (Exterior Lighting): No report.
- TC-4.6 (Street Lighting): Mr. Ketvirtis presented his report, and expressed his regret that the chairman of TC-4.6, who had done an excellent job, was planning to resign. Answering Mr. Chorlton, Mr. Ketvirtis said that the CSA is in the process of approving the IES Standard Practice. He thought that a change from the illuminance method to the luminance method would come, perhaps in the next-but-one version of the CSA Standard.
- TC-4.7 (Automobile Lighting): There was no report, but the President commented that Dr. Pinkney of NRC had attended one meeting on Mr. Snider's behalf. He had shown the NAE film (shown at the last CNC/CIE meeting) and it had been very well received.
- TC-4.8 (Airborne Lighting and Signals): No report.
- SG-A (Psychological Problems in Lighting): Dr. Kaiser presented his report.

- SG-B (Lighting and Architecture): Dr. Manning's report was not available.
- SG-C (Cost-Benefit Relationships in Lighting): Mr. Orr presented his report.
- SG-D (Computers in Lighting): There was no report, but Dr. Wyszecski commented that the Study Group was trying to compile a list of computer programs dealing with lighting, with a view to making these programs available to other interested persons or groups. He did not consider this to be worthwhile or even feasible, and suggested that the question of computer programs should be referred to individual Technical Committees.
- SG-E (Non-Sensory Effects of Optical Radiation): Dr. Sanders presented his report. Mr. Ketvirtis commented that interest in photo-synthesis was increasing in Canada as the North became more populated. Dr. Wyszecski said that there was a National Committee on photobiology that was more equipped to handle this, but acknowledged that it was important to bridge the gap between illuminating engineers and photo-biologists.

#### 9. Other business

Dr. Wyszecski said that the CNC should have some official links with the Canadian Standards Association and the Standards Council of Canada. CIE activities should be publicized by the CSA. The President agreed to look into this matter.

#### 10. Adjournment

There being no further business, the meeting was adjourned at 4:05 p.m.



A.R. Robertson  
Secretary

Secretary's Report to the Canadian National Committee of the CIE

November 1974

1. The annual dues of \$1,100 (US) for Canadian membership of the CIE were paid by the National Research Council in February 1974.
2. In October 1973, 2 copies of the CNC/CIE booklet were sent to Mr. L.E. Barbrow, Secretary of the U.S. National Committee. Later 10 more copies were sent, at Mr. Barbrow's request. The U.S. National Committee prepared a similar document in 1967, a copy of which is held by the CNC Secretary, but at the present time there are no plans for issuing an updated version.
3. In October 1973, the President wrote to Dr. J.M. Harrison, Assistant Director-General for Science of UNESCO, to explore the possibility of UNESCO providing funds to the CIE to aid the preparation and distribution of CIE publications. The answer was that no possibility of support from UNESCO exists for the time being but, since the financial contributions of UNESCO are revised from time to time, the CIE was advised to make another attempt in the future. In spite of the negative result, the CIE Board of Administration expressed its hearty thanks to the CNC President for his efforts.
4. During the period covered by this report, the President wrote a number of letters in support of various proposed members of CNC subcommittees.
5. Circular-letter no. 218CN, received from the Central Bureau in November 1973, requested comments on the final drafts of the new CIE Statutes and By-Laws. These drafts were discussed by the CNC Executive Committee, and, as a result, several comments and suggestions were sent to the Central Bureau in May 1974.
6. Circular-letter no. 221CN, received from the Central Bureau in November 1973, announced the formation of Study Group E (Non-Sensory Effects of Optical Radiation). The Study Group was assigned to the U.S. National Committee with Mr. L. Thorington as Chairman. In December 1973 Mr. Thorington asked for proposals for members of the Study Group. Since Study Groups are not restricted to one member per country, the names of Mr. D. Hoogeveen and Dr. C.L. Sanders were both proposed. Mr. Hoogeveen had been suggested at the October 1973 meeting of the CNC and Dr. Sanders was suggested by Mr. Thorington.
7. The CNC President's article on the National Research Council appeared in CIE Bulletin No. 26 (October, 1973).
8. Copies of CIE Bulletin No. 26 and the new Code of Procedure for Technical Committees and Study Groups were distributed to Members and Delegates in February 1974.

9. In April 1974, the CNC received a memorandum from the National Research Council Committee on International Scientific and Technological Affiliations (CISTA) requesting a reconstruction of the CNC/CIE involving a reduction in the number of members. The CNC Executive Committee met several times to discuss this matter and also met with the Secretary of CISTA. In August 1974 the CNC President wrote to the Chairman of CISTA stating the arguments against major reconstruction and proposing a compromise solution. Copies of both memoranda were distributed to Members and Delegates of the CNC.
10. In April 1974, a letter was received from Mr. L.E. Barbrow, Secretary of the U.S. National Committee, requesting the preference of the CNC for the spelling of the plural of lux. The alternatives were lux, luces or luxes. The CNC Executive Committee, and Mr. Davidson, Canadian delegate to CIE TC-1.1 (Definitions and Vocabulary) were unanimous that "lux" was the preferred form. Mr. Barbrow was informed of this opinion.
11. Circular-letter no. 223CN, received from the Central Bureau in April 1974 announced that the Reports of Activity and Reviews of Progress, presented by each Technical Committee at the 1971 Session of the CIE in Barcelona, would be published as a third volume (publication no. 21C) of the Barcelona Proceedings. The CNC has ordered 10 copies, to be distributed without charge to those Canadians who purchased the first volume (publication no. 21A). The 10 copies of publication 21C have not yet been received.
12. A number of people have expressed, to the CNC, their concern that action should be taken to promote better mine lighting in Canada. Since mine lighting comes within the terms of reference of CIE TC-4.1 (Interior Lighting) it was decided to appoint a subcommittee of Mr. Dean's CNC subcommittee 4.1 to investigate this problem. On Mr. Dean's advice, the CNC President appointed Mr. F.R. Dorward as chairman of this sub-subcommittee.
13. Circular-letter no. 226CE, received in July 1974, concerned an application for admission as an Associate of the CIE from Mr. S. Palaniandy of Borneo. Both Canadian members of the CIE Executive Committee voted in favour of Mr. Palaniandy's admission.
14. Copies of CIE Bulletin No. 27 were distributed to Members and Delegates in August 1974.
15. Mr. W.M. Dillon has resigned as the Canadian delegate to CIE TC-4.5 (Exterior Lighting).
16. Preliminary enrollment forms for the 1975 Session of the CIE in London have been received from 18 persons, and forwarded to the Organizing Committee.

17. Prospectuses of 5 papers for the 1975 Session have been received and forwarded to the Action Committee.
18. New CIE publications are now bought by the Canadian Institute for Scientific and Technical Information (formerly the National Science Library) at the request of the CNC Secretary. These publications are then sold by NRC's Publications Distribution Office. A table attached to this report shows the current status of NRC's stocks.

A handwritten signature in blue ink that reads "A.R. Robertson". The signature is written in a cursive style with a horizontal line under the "A".

A.R. Robertson

28 November 1974

Purchase and Sale of CIE Publications by CNC, 1973-1974

		<u>Received</u>	<u>Distributed</u>	<u>No. in Stock</u>		<u>On Order</u>
				<u>19-10-73</u>	<u>26-11-74</u>	
8	Street Lighting & Accidents	10	0	0	10	0
15	Colorimetry	0	14	78	64	0
15.1	Special Metamerism Index: Change of Illuminant	0	16 6	178	162 172	0
17	International Lighting Vocabulary	10	18	8	0	10
18	Principles of Light Measurements	0	12	12	0	30
19	A Unified Framework of Methods for Evaluating Visual Perfor- mance Aspects of Lighting	0	13	22	9	0
20	The Integrated Irradiance and the Spectral Distribution of Simulated Solar Radiation for Testing Purposes	25	3	0	22	0
21A	Proceedings, Barcelona 1971 Vol.A	0	1	1	0	0
21B	Proceedings, Barcelona 1971 Vol.B	0	1	3	2	0
22	Luminance Distribution of Clear Skies	20	8	0	12	0
23	Motorway Lighting	50	2	0	48	0
24	Photometry of Indoor Type Luminaires with Tabular Fluorescent Lamps	20	8	0	12	0
25	Procedures for the Measurement of Luminous Flux of Discharge Lamps and for their Calibration as Working Standards	15	13	0	2	0
26	International Recommendations for Tunnel Lighting	10	5	0	5	0
27	Photometry of Luminaires for Street Lighting	20	8	0	12	0

Canadian National Committee of the  
Commission Internationale de l'Eclairage

August 1974

Members

M. G. Bassett  
W. Budde (President)  
J. M. Chorlton  
G. E. Davidson  
G. F. Dean  
F. R. Dorward  
D. W. Frick  
P. K. Kaiser  
A. Ketvirtis  
P. Manning  
J. D. Moreland  
G. E. Mulvey  
A. T. Orr  
A. R. Robertson (Secretary)  
C. L. Sanders (Vice-President)  
C. W. Shearer  
J. C. Wilson  
G. Wyszecki

CIE Technical Committee(s)

TC-1.5 (Fundamentals of Lighting Calculations)  
TC-2.4 (Luminaires)  
TC-2.2 (Sources of UV and IR Radiation)  
TC-2.3 (Photometric Characteristics of  
Materials)  
TC-3.1 (Visual Performance)  
TC-3.4 (Discomfort Glare)  
TC-1.1 (Definitions and Vocabulary)  
TC-4.1 (Interior Lighting)  
TC-2.1 (Sources of Visible Radiation)  
-  
TC-1.4 (Photopic, Mesopic and Scotopic Vision)  
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TC-1.6 (Fundamentals of Visual Signalling)  
TC-3.3 (Fundamentals of Physical Environment)  
SG-C (Cost-Benefit Relationships in Lighting)  
TC-3.2 (Color Rendering)  
TC-1.2 (Photometry and Radiometry), Chairman  
SG-E (Non-Sensory Effects of Optical Radiation)  
TC-4.3 (Lighting for Stage and Studio)  
-  
TC-1.3 (Colorimetry), Chairman

Other Delegates

B. D. Cobby  
W. M. Dillon  
D. MacGowan  
S. W. McKnight  
G. L. Snider  
Z. S. Subotich  
D. Hoogeveen  
TC-4.8 (Airborne Lighting and Signals)  
TC-4.5 (Exterior Lighting)  
TC-4.2 (Daylighting)  
TC-4.4 (Sports Lighting)  
TC-4.7 (Automobile Lighting)  
SG-D (Computers in Lighting)  
SG-E (Non-Sensory Effects of Optical Radiation)

SUBCOMMITTEES OF CANADIAN NATIONAL COMMITTEE OF CIE

August 1974

1.1 Definitions and Vocabulary

G. E. Davidson (Chairman)

All members and delegates

1.2 Photometry & Radiometry

C. L. Sanders (Chairman)

W. Budde

G. E. Davidson

J. C. Morgan

A. R. Robertson

1.3 Colorimetry

G. Wyszecki (Chairman)

W. Budde

A. R. Robertson

C. L. Sanders

1.4 Photopic, Mesopic and Scotopic Vision

P. K. Kaiser (Chairman)

P. Hallet

D. G. Pearce

J. D. Moreland

G. Wyszecki

3.1 Visual Performance

J. M. Chorlton (Chairman)

M. G. Bassett

G. F. Dean

F. R. Dorward

A. W. Henschel

P. K. Kaiser

C. Labreque

3.2 Color Rendering

A. R. Robertson (Chairman)  
D. H. McRae  
C. L. Sanders  
G. Wyszecki

4.1 Interior Lighting

G. F. Dean (Chairman)  
G. K. Brown  
W. M. Dillon  
F. R. Dorward  
A. W. Henschel  
A. L. Job  
D. E. Macpherson  
P. Manning  
A.C.T. Robinson  
R. Shortreed

4.1 Mine Lighting (Subcommittee)

F.R. Dorward (Chairman)  
D. Hemmings  
W.V. McKnight

4.2 Daylighting

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H. Elder  
R. Lakowski  
P. Manning  
J. F. McIntosh  
B. G. Young

4.3 Lighting for Stage and Studio

C. W. Shearer (Chairman)  
D. R. Gillson  
J. H. Kluge

4.4.      Sports Lighting

S. W. McKnight (Chairman)

G. F. Dean

A. Lafontaine

T. Nutt

4.6        Street Lighting

A. Ketvirtis (Chairman)

V. McCullough

S. W. McKnight

H. D. Nicholson

C. Rose

E. C. Rowsell

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Mr. D. S. Gordon,  
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Vancouver 1, B.C.

Mr. R. E. Jennings,  
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NOVEMBER 1974 REPORT ON TC-1.2, PHOTOMETRY AND RADIOMETRY.

for CNC/CIE, by C.L. Sanders

1. Due to the pressure of other work the survey which was to be made by O.C. Jones, Great Britain, on Calibration Facilities and Research Programs on Photometry and Radiometry of National Laboratories was not made.
2. B. Steiner, USA, has completed a survey to determine the properties and availability of sources which are useful as secondary standards. This will be presented in London in 1975.
3. C.L. Sanders summarized replies to a questionnaire on a "Technical Report on Spectroradiometry of Fluorescent Lamps". Jones, Bauer and Schanda are behind schedule in preparing a draft report using Nonaka's paper and the replies.
4. W. Erb, FRG, has circulated "A Summary of Properties and Reflection Values of Materials which are used as Reflection Standards". Comments on it have been requested.
5. A.R. Robertson, Canada, edited a report "International Comparison of Measurements of Luminance and Reflection Factor of White Diffusing Samples" which was written by V.E. Kartachevskaja. Copies were circulated to TC-1.2 members and consultants. Copies are available to CNC/CIE members. Plans for abbreviation and publication are being discussed.
6. Some proposed definitions of terms have been circulated by G. Bauer for comment.
7. The results of the Spectral Irradiance Scale comparison are not yet available from K. Yoshie, Japan, because some laboratories have not submitted their measurements. Data is expected in December 1974.
8. Some members of the subcommittee on Detectors met in Hungary under the chairmanship of W. Budde, Canada. Some silicon detectors and amplifier assemblies will be built here and circulated internationally for measurements of non-linearity.
9. W. Blevin, Australia, visited NRC to discuss revision of CIE No. 18, "Principles of Light Measurements" and he plans to circulate a draft before the September 1975 CIE meetings.
10. TC-1.2 will hold presessional meetings in London, September 5 and September 8, 1975. A post-sessional meeting will be held on the morning of September 19, 1975. There will be a half-day meeting during the session as well as two meetings with other Committees of Group I.

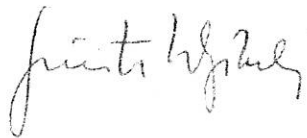
11. A questionnaire will be circulated shortly to get some preliminary response regarding the working program for TC-1.2 in 1975-1979.
12. For the 1975 meetings, an extensive reference list for 1970-1974 is being prepared by C.L. Sanders as well as a summary of activities and progress for 1971-1974.

Progress Report  
CIE TC-1.3 (Colorimetry)  
Period: October 1973 to November 1974

Preparations are in progress for the next meetings of the committee to be held just prior to and during the Plenary Session of the CIE in September, 1975, at London, England.

The various subcommittees of TC-1.3 carry out their work by correspondence and the chairman of each of the subcommittees is to give a full report of progress at the London meetings. The current subcommittees are

- (i) Standard sources for colorimetry.
- (ii) Color metamerism.
- (iii) Color-difference evaluations.
- (iv) Chromatic adaptation.
- (v) Whiteness.
- (vi) Terminology.



Gunter Wyszecki  
Chairman, CIE  
TC-1.3 (Colorimetry)

November 26, 1974

Department of Psychology



YORK  
UNIVERSITY

FACULTY OF ARTS

4700 KEELE STREET, DOWNSVIEW 463 ONTARIO

Technical Report T.C. 1.4.

This committee did not meet during this past year. We are continuing to work on the heterochromatic photometry report which will be sent to other technical committees in January 1975. We hope that these committees will provide feedback in sufficient time to appropriately alter the document for the 1975 C.I.E London Meeting.

P.K. Kaiser

## COMMITTEE TC-2.1 - SOURCES OF VISIBLE RADIATION

Report to CNC/CIE, November 1974

There was a meeting in London on March 21-22 of this year which I could not attend. This committee is very actively involved in four areas:-

1. Review methods for appraising light sources with special reference to their application.
2. Develop standard uniform presentation of lamp performance data.
3. Develop suggested physical and photometric lamp characteristics of proposed new light sources for various applications.
4. Terminology.

In reference to the first, an appraised method is presently in the process of development and comments have been solicited on a first draft by the end of December 1974. My comments are presently being put into report form.

The second area has been under advisement and discussion. A document on proposals made is expected before the end of the year.

A first draft of section three was circulated to the members prior to the March meeting. Revision is presently in progress.

There appears to be little activity to date on Terminology. There is no sub-committee on this.

The next meeting of the committee is slated for September 8-9, 1975, in London prior to the CIE Conference. I would like to attend however it will be most difficult.

At present, with exception of Joe Thomas, I have no structured committee. This is for lack of time on my part as there is a definite need.

The chairman, Dr. Y. Otani of Japan, is doing an excellent job and is being supported very well by Dr. Edwards and Dr. Hayes.

F.R. Dorward

Report on the Activities of TC-2.2

Sources of UV and IR Radiation

The "Recommendation for the Integrated Irradiance and the Spectral Distribution of Simulated Solar Radiation for Testing Purposes" has been finalized and is now published as CIE Publication No. 20.

The Committee had a meeting on 20 Sept. 74 at Berlin; however, I was unable to attend. The main items on the agenda were:

New UV and IR sources and methods of measurement.

Present status of work on recommendations for a standard of UV-C-radiation.

Application and standardization of radiation units based on physiological efficacy functions.

Maximum and minimum doses at the working place.

W. Budde

W. Budde

28 November 74

### Report on the Activities of TC-2.3

#### Photometric Characteristics of Materials

After the 1973 meeting at London, England, a new version of the Technical Report on "Radiometric and Photometric Characteristics of Materials and their Measurement" was prepared in German and in English.

This version has now been distributed to the members and consultants for their comments.

The US-TC-2.3 held one meeting in June 1974 at the NRC Ottawa. The discussions covered mainly the activities within the various subcommittees of TC-2.3 (Gloss, Luminescence, Polarization, Turbid Media). Special reports were given on:

1. International status of gloss measurements.
2. Metrology of luminescent materials.
3. Comparison of various experimental techniques in absolute reflectance measurements.
4. The properties of transfer and working standards for reflectance measurements.



W. Budde

28 November 74



UNIVERSITY OF TORONTO  
Department of Electrical Engineering  
Toronto, Canada M5S 1A4

ANNUAL REPORT 1973-74

CIE COMMITTEE TC-2.4, LUMINAIRES

The meeting of this Committee, held in Copenhagen on October 18th and 19th, 1973, was attended by 8 members and 1 guest. An extensive agenda was covered including the detailed study of the "Second Draft of Recommendations of Photometry of Floodlights". Revisions and amendments to the report on the "Photometry of Indoor Type Luminaires" were also discussed. Intercomparison measurements on air-handling luminaires had been made by three English firms and the luminaires were on their way to Germany for testing there.

A meeting was held in Milano, Italy on October 8th and 9th, 1974 which I was unable to attend. I received an extensive agenda and several draft reports of work which was to be discussed. The results of this meeting have not been received yet.

CIE COMMITTEE TC-1.5, FUNDAMENTALS OF LIGHTING CALCULATIONS

A draft copy of "Recommendations for Basic Calculation of Whole Average Illuminances on the Working Plane and on the Surfaces of an Enclosed Space Using Artificial Lighting from Symmetrical Luminaires" was received this autumn in preparation for the Committee meeting held in Leicester, England on October 8th, 1974, which I was not able to attend. The results of the meeting have not been received yet.

Marion G. Bassett,  
Canadian Member C.I.E.

November 28, 1974



CIE TC-3.2 (Color Rendering) - Report to CNC/CIE for 1973-74

A meeting of TC-3.2 was held in September, 1974, in Hungary. I was unable to attend, and have not yet received the minutes. The main items on the agenda were:

(i) A supplement to CIE Publication No. 13.2 (Method of Measuring and Specifying Colour Rendering Properties of Light Sources) that will consider the influence of UV radiation.

(ii) A tentative CIE recommendation on a method of measuring and specifying colour preference properties of light sources.

(iii) Methods of improving the CIE method of specifying colour rendering.

As a contribution to the Review of Progress, being prepared for the 1975 CIE Session, I reported that the CIE Colour Rendering Index is widely used in Canada, but is not, to my knowledge, included in any Canadian standards.

*A.R. Robertson*

A.R. Robertson  
Canadian Members of TC-3.2

November 28, 1974

CANADIAN NATIONAL COMMITTEE OF CIE, 1973/74

CIE Committee TC3.5 'Lighting in the environment'  
Annual report to CNC

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The Committee met in London in March 1974 and for a 3-day working meeting in Budapest in September 1974. I took part in this second meeting.

From the minutes, the London meeting was occupied with a consideration of reports and papers for the 1975 CIE Session, a review of national activities in lighting and the environment, with further consideration of the lighting questionnaires (reported to CNC in my 1973 report) and in the initiation of a design method for lighting.

All these topics were continued in the Budapest meeting.

- (i) Three questionnaires were amended for final presentation to CIE.

Questionnaire A is designed to sensitize lay persons to the place of lighting in the experience of the environment within buildings.

Questionnaire B is a means by which lighting engineers may gather data and visual impressions that will help relate calculations to visual results and lighting objectives to final appearance.

Questionnaire C is designed to promote communication between architects and lighting designers.

The preparation of suitable questionnaires was one of the main tasks assigned TC3.5 by CIE. There is no doubt that the evaluation of lighting installations by the use of carefully-devised questionnaires is a highly educative process from which anybody - layman or professional - has much to gain. (I have used questionnaires with groups of both kinds and have no doubts on this. I have also used early versions of the TC3.5 questionnaires with students at this School of Architecture and they have been very helpful.) The next task to be tackled in this series will be an assessment of the various attempts that have been made to quantify questionnaire evaluations of lighting installations.

- (ii) A useful beginning has been made on the lighting design guide but, inevitably, much remains still to do. To date, most of the initiative for this activity (so far as I can judge from my intermittent participation) has come from the Chairman, Mr. Hewitt.

It is my personal belief that completion of a design guide that will be used by architects offers the only practicable short-term solution to the task of providing better integration of lighting with building design. The long-term solution (effective education in lighting for student architects) seems, in Canada, to be a long way away from realization.

Peter Manning,  
Director, School of Architecture  
Nova Scotia Technical College  
Halifax, Nova Scotia

November 26, 1974

Copies to: H. Hewitt  
W.K. Lumsden

*S. Franklin Dean*

*144 Wanless Avenue*

*Toronto 42, Canada M4N 1W2*

November 15, 1974

CANADIAN NATIONAL COMMITTEE, C.I.E.

REPORT of TC-4.1, INTERIOR LIGHTING for  
ANNUAL MEETING, NOVEMBER 29, 1974

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The main project of the committee is a continuing effort to complete the C.I.E. Guide on Interior Lighting for presentation at the quadrennial session in London, England, September 1975.

During the past year, one meeting of the main committee was held in London on March 29, 1974. Eight committee members and four visitors were present. The writer was not able to attend.

Minor editorial changes were made to ten of the Chapters. The material on "Energy" was moved from the appendix to be Chapter 10.

Chapter 3- Discomfort Glare. Mr. Lowson of Australia, Chairman of TC-3.4 acknowledged that the proposal in the Guide was fairly satisfactory but felt that, due to some limitations, his committee wished to submit amendments. In the meantime, Dr. Fischer of TC-4.1 has prepared a major revision.

Chapter 11-Calculation of Illuminance. There was much discussion of this Chapter due to a major revision prepared by a committee member who added correction factors for non-standard arrangements and a table of maximum spacing/height ratios.

Chapter 5-Luminance Distribution. Approximately three months after the committee meeting, a revision of the Chapter was received from Mr. Dykes Brown, Chairman with a request for prompt return of any comments. A reply was sent proposing that reflectances of desk tops should be less than 0.5, walls should be 0.4 to 0.6 instead of 0.3 to 0.8 as he indicated and floors 0.25 to 0.45 instead of 0.2 to 0.4. The higher values for floors would tend to lower the contrast between luminaires and ceilings.

Due to an interest in mine lighting expressed to CNE/CIE, a new subcommittee of TC-4.1 on Mine Lighting has been established. The membership is:-

Chairman, Mr. F. R. Dorward, ABEL, Edmonton, Alberta.

Mr. G. K. Brown, Dept. of Energy, Mines & Resources, Ottawa.

Mr. D. Hennings, Noranda Research Centre, Pointe Claire, Que.

Mr. A. L. Job, Dept. of Energy, Mines and Resources, Ottawa.

Mr. J. V. McKnight, Mines Engineering Branch, Prov. of Ont., Toronto.

Mr. Dorward has contributed the following statement on:-

MINE LIGHTING IN CANADA

At the present time mine lighting is generally installed on the basis of meeting safety requirements as laid down by the Canadian Electrical Code, Part 5. In addition, most surface installations generally follow current practise for indoor lighting. There is considerable need for improvement in underground locations. Past activity has been devoted mainly to work on cap lamps. Recently interest has been shown on the general subject of mine lighting and at least one organization is doing research work. There are good prospects for developing improvements. The need from a safety point of view alone is very much apparent.

*S. F. Dean*  
Chairman, TC-4.1

Canadian National Committee  
of the  
Commission Internationale de L'Eclairage  
T.C.-4.3 Stage and Studio Lighting  
Annual Report November 1974

The Canadian sub-committee has just been established with Mr. J. H. Kluge, Mr. D. R. Gillson and myself.

In January of 1974 we received a Newsletter from the Secretariat Committee in Great Britain. Three committee projects are under discussion; Luminaire Symbols for Theatre, T.V. and film, Correlation of International Standards for Stage and Studio Luminaires and Related Equipment, Color Media Data, and Dimmer and Lighting Control Definitions and Symbols.

I plan to investigate these projects with the sub-committee to determine if a useful contribution can be made.

*C. Wm. Shearer*

cc: K. R. Ackerman Chairman TC4.3  
R.G.S. Anderson Secretary TC4.3  
J. H. Kluge  
D. R. Gillson

C. Wm. Shearer Delegate  
TC4.3

CIE TECHNICAL COMMITTEE (TC4.4)  
SPORTS LIGHTING

ANNUAL REPORT 1974  
NATIONAL RESEARCH CENTRE  
Ottawa, November 29, 1974

Committee TC4.4 held their 2nd and 3rd meetings in Europe since our meeting and my report of November 1973. Only one during the current 1974 year.

2nd Meeting - November 6th & 7th, Eindhoven 1973  
3rd Meeting - May 28th & 29th , Paris 1974

The agenda and the minutes of these meetings have been circulated to the subcommittee. The only report that I received is from Mr. Tom Lemons of USA who started his assignments on the first draft for Swimming Pools. These have been circulated to my subcommittee and is available. The work groups are as follows:-

Fundamentals	(Messrs. Walters, Lemons, Wald)
Sports Halls	(Messrs. Kessler, Ziesenib)
Football	(Messrs. Balder, Wald)
Ice Sports	(Messrs. Prochazka, Kessler)
Tennis	(Messrs. Habro, Balder)
Swimming	(Messrs. Lemons, Faucette, Vallet)
Terminology	(Mr. Vallet)


It is of interest that use of the technical drafts on such things as "The Lighting for Sports events for Color TV Broadcasting", has met with considerable interest and approval by many, and the CBC people in my subcommittee, indicate it is a good reference, of course with the usual minor disapproval of certain phrases or words. I personally have used this CIE data to advantage in talks and presentations for a number of specific applications.

There is a continued use of many thousands of MH1000 watt and 1500 watt North American lamps for sports lighting. An installation of CSI lamps at Toronto and Kitchener shows the use and acceptance of CIE data here. One or two major sports stadia will use the 2000 watt M.H. European lamps in Montreal for the Olympics.

Olympic installations are gradually taking shape with the temporary installation of the 2000 watt floodlights at the University of Montreal this last summer for the 1974 Bicycle Competition and will be installed later in the Velodrome for Olympic use.

It is too early to expect any details on Olympic installations even for the quadrennial meeting or reports, but great activity is underway at the sites and at the Forum on possibly re-lighting, the relighting of the CNE Stadium in Toronto and generally throughout Canada. I have recently contacted Vancouver, Edmonton and Halifax to broaden the subcommittee to have more and wider contact, to disseminate CIE data and to draw information so as to report the state of the art of Canadian Sports Lighting activities.

Sub-Committee -  
F. Dean, Toronto  
A. Lafontaine, Montreal  
T. Nutt, Montreal

  
S.W. McKnight,  
TC4.4 Sports Lighting  
November 20, 1974

CNC/CIE COMMITTEE TC-4.6  
PUBLIC LIGHTING

ANNUAL REPORT 1974

The main committee of CIE TC-4.6 held two meetings during the year of 1974. The first meeting was held in Vinstra, Norway, April 4-5, 1974 and the second in Zurich, Switzerland, September 11-12. Preceding the Zurich meeting a Symposium on Glare in Public Lighting was held. The writer attended the TC-4.6 meeting on September 11-12 and the Symposium.

Both meetings in Vinstra and Zurich were pre-occupied with finalizing the revisions of Document #12 - Public Lighting Recommendations, and the supporting five reports dealing with specific problems in roadway lighting.

The presently planned reports are as follows:

TR1: Calculations and measurements of luminance,  
illumination and glare in street lighting  
installations.

TR2: Glare in street lighting installations

- TR3: Special problems in street lighting
- TR4: Maintenance and depreciation of street lighting installations.
- TR5: Recipes in street lighting design.

In order to assemble credible up-to-date supporting information for Document #12 special working groups were set up to prepare the Technical Reports.

This work has been basically completed; however, to review final drafts of all these documents Professor J.B. de Boer, Chairman of the Committee, suggested that an additional two committee meetings should be held before the General Conference in London, 1975.

The next meeting of this committee is planned for March 11-12 in Milan.

  
A. Ketvirtis

Chairman TC-4.6 of CNC/CIE



FACULTY OF ARTS

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Annual Report S.G.A.

There was one meeting in conjunction with the Annual International Applied Psychology Meeting in Montreal. I did not attend, but did receive a report the summary of which is enclosed. In summary there was a desire expressed by the participants of S.G.A. to continue their association, but preferably, as an independent technical committee of the C.I.E.

P.K. Kaiser

## SUMMARY AND CONCLUSION

In brief summary, we are proposing that the recent activities of 'Study Group A' be formalized as a permanent CIE Technical Committee. As presently drafted, the 'Terms of Reference' and the 'Working Program' to be submitted to the CIE Action Committee are as follows:

### TERMS OF REFERENCE:

To study and evaluate the effects of light on human impression and behavior.

### WORKING PROGRAM:

1. Foster liaison with other organizations that are concerned with the psycho-social and/or 'aesthetic' implications of space design.
2. Promote, nurture, and otherwise facilitate informal multi-disciplinary dialogue on this subject.
3. Serve as an international 'clearinghouse' of research and background information on this aspect of light.
4. Work toward the assembly of a comprehensive statement on the current state-of-the-art in this subject area --- with eventual production of suitable design guides.

The purpose in preparing and circulating this summary is to request reactions and suggestions from those who have shown an interest in SG-A activities. Can we have your thoughts on this matter as soon as possible. After receiving these, we intend to finalize this statement in a letter to the CIE Action Committee. This letter will be finalized about December 1st.

JEF/ds

CANADIAN NATIONAL COMMITTEE OF CIE, 1973/74

Study Group B  
Annual report to CNC

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Study Group B continues to be centred in South Africa. The only activity to emerge in this past year has been a questionnaire on the attitudes of architects and lighting engineers towards the assignment of responsibilities for lighting. As requested, I circulated a similar copy of the questionnaire to architects in Nova Scotia. I do not think the results I received were any more useful than those achieved by the South Africans. I believe the Study Group to be a waste of time and I ask to be relieved of this task. I suspect that I am already doing more harm than good through my participation.

Peter Manning  
School of Architecture  
Nova Scotia Technical College  
Halifax, Nova Scotia

November 26, 1974

NOVEMBER 29, 1974  
REPORT TO 19TH ANNUAL MEETING OF CNC/CIE  
STUDY GROUP C (COST BENEFIT RELATIONSHIPS IN LIGHTING)

A. T. ORR

With the help of Dr. A. R. Robertson we were directed to and entered into correspondence with Mr. J. Svehla of Czechoslovakia, Chairman of Study Group C. We were advised that this Study Group in addition to Mr. Svehla consists of the following members: P. Lemaigre-Vereaux, France  
D. W. Durrant, Great Britain  
T. Hashimoto, Japan  
R. Schneppendahl, Germany  
J. Y. Sviridou, U.S.S.R.  
J. W. Griffith, U.S.A.

From Mr. Svehla we received a copy of the 1971 Barcelona Report of Study Group C which outlined the past history of the Study Group, a summary of activities and a future working programme. The comments of the Canadian National Committee on the aforementioned report were solicited. Mr. Svehla would like to have the agreement of CNC/CIE to the draft and active co-operation with the work of this Study Group for the period 1975 to 1979.

In essence, Study Group C is allocated the task to first clarify a working programme and method of work, then to proceed to study and analyze trends of characteristic parameters of lighting advancement in C.I.E. Member countries. Five working materials have been worked out and basic statistical data has been developed of 15 parameters in the years 1960 to 1980. Comparative studies and analyses of these trends in individual countries are under preparation and will be circulated for study and comment.

Future work of this study group is to prepare more precise data and complete analyses and prepare standard statistical data covering world advancement in lighting first to the year 1985, to be followed by projections to the year 2000.

In the 18th C.I.E. Conference in September 1975 this data will be promulgated and additional countries including Canada will be requested to produce data. Subject to the approval of this meeting and in the hope that our limited availability to statistics in Canada can help raise the level of reliability of world forecasts, we shall advise Mr. Svehla that we would be interested in being kept aware of the work of the Committee and will co-operate in the programme within the limits of Canadian lighting statistics available to us.

Respectfully submitted,

  
A. T. Orr.

Report on Study Group E, "Non-Sensory Effects  
of Optical Radiation", for CNC/CIE

November 1974, by C.L. Sanders

A list of references and a number of reprints have been received from the chairman, L. Thorington. Members for the Study Group have been selected by the chairman. No formal meeting will be held until September, 1975.

The problems seem so numerous and complicated that one wonders whether the CIE can do more than provide the spectroradiometric measurements, or methods of making integral measurements, where a spectral response function is approximately known. At NRC we are making some UV meters for measurements of erythema, conjunctival and germicidal radiation. In each case the required spectral response is so uncertain that perhaps one function of a technical committee would be to re-establish the most appropriate spectral responses for these effects.