U.S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS
WASHINGTON, D.C. 20234

8 April 1971

IN REPLY REFER TO:
421.14

Mr. Roland E. Derby, Chairman
ISCC Problems Committee

Dear Mr. Derby:

This will reply to your letters of 23 and 25 March 1971 enclosing reports respectively from ISCC Problem Committee 25 (D), A General Procedure for the Determination of Relative Dye Strength by Spectrophotometric Transmittance Measurement, and from ISCC Problem Committee 21, Standard Practices for Visual Examination of Small Color Difference.

I am much impressed by these reports. They are indeed obviously the result of a great deal of effort by the subcommittees and contain much valuable information. I am glad to approve them both. I think that they will be very useful, and will add to the prestige of the Council.

As I read through these reports, I noted some passages that seemed to me to require minor editorial revisions. I would hope that such of these suggested revisions as sell themselves to you might be made before publication:

Small Color Differences. Instead of writing in the last three lines of page 3 the clause: "., so that the specimen surface image includes only a low brightness area.", I suggest "., to prevent contamination of the light diffused from the body of the specimen by an undue proportion of surface-reflected light." I find it confusing to use the word "brightness" when "luminance" is called for, but even low luminance is inept because the luminance must be low relative to that caused by diffusion of light within the specimen. Finally "specimen surface image" seems to imply that the specimen surface is imaged, which it is not. This phrase has to be read as an abbreviation for "the mirror image cast by the specimen surface.

Relative Dye Strength. These minor editorial suggestions are conveniently listed under Spelling, Abbreviations, Dangling Participles, and Clarifications.

Spelling

Page	Line	
1	27	Instead of "dye strength evaluation", write "dye-strength evaluation". Same change in line 28.
3	24	Write: "dye-strength determination".
15	14	Instead of "Hydrogen Ion Activity", write "Hydrogent-Ion Activity". Same change in line 16.
16	7	Instead of "differnet", write "different".
	23	Instead of "intial", write "initial".
17	18	Instead of "method development work", write "method-development work".
20	5	Instead of "double beam ratio recording" write "double-beam, ratio-recording".
21	41	Instead of "Single Beam-Non Recording Instruments", write "Single-Beam, Nonrecording Instruments".
	42	Instead of "single beam instruments", write "single-beam instruments".
25	12	Instead of "Isobestic", write "Isosbestic".

Abbreviations

Throughout the 26 pages of carefully drawn text, abbreviations are written with a gratuitous period added, thus: nm., g., ml. cm., mm., and so on. The period is not a part of the abbreviation. See paragraph 12.9 on page 25 which gives correctly the abbreviation (nm) for nanometer without the period. The period should be deleted unless there is some other reason for keeping it, such as the abbreviations coming at the end of the sentence.

Dangling Participles

A participle whose antecedent does not appear in the sentence is called a dangling participle, and although we are accustomed in oral communication to guess these antecedents, there is no need to burden the reader of a written communication with the problem of resolving this kind of ambiguity.

Page	Line	
7	5 from bottom	Instead of "obtained when comparing dyes", write "obtained from comparison of dyes".
13	33-34	Instead of "agitate while heating to the temperature specified for the product", perhaps write "agitate during the heating of the product to the specified temperature."
21	4-6	The dangling participle might easily be avoided by writing this sentence: "Whenever solvents other than water are used, it is good practice also to use the same solvent as the reference liquid."
3	15	Instead of "obtained using this method" perhaps write "obtained by using this method".

Clarifications

Page	Line	
1	2 from bottom	Instead of "(the reciprocal of 1. multiplied by 100)", it might be clearer to write "(the reciprocal of this ratio multiplied by 100)".
5	6-7	Instead of "which can be attained in a particular laboratory depends on the equipment that is available." perhaps write: "that can be attained in a particular laboratory depends on the available equipment." A clause introduced by the word "which" is supposed to be nonrestrictive; that is, the clause might have been put within parentheses and would yield the same meaning. Restrictive clauses should be introduced by the word "that". Thus on page 15, line 6 from bottom, write: "<u>that</u> will give identical curve shapes . ...". Similarly on page 19, line 14, write "<u>that</u> eliminate the plating effect", in line 30, write: "<u>that</u> eliminate the effect.", and in line 39 write: "<u>that</u> irradiate the cell". On page 25, line 18, write: "<u>that</u> are sensitive to light. ...".
14	6 from bottom	Instead of "where", write "if".
	13	Instead of "while establishing", write "in establishing".
20	16-17	Clearer towrite this sentence as: "The lamp should be replaced whenever darkening of the bulb becomes evident." Darkening occurs continuously as the lamp is burned.
	34	Instead of "when measuring dyes", write "for measuring dyes".
21	6-7	Clearer to write this sentence, "A significant error can result if the reference liquid has a refractive index different from that of the solution."
	7	Instead of writing, "When a solvent having inherent color is used", write "If a solvent hving inherent color is used".
22	11	Instead of "when filled with solvent " write "both filled with solvent."
	21	Instead of "The data is used", write "The data are used".
23	15	Instead of "recommended in calculating strength", write "recommended for calculating strength".
24	last line	Each integral should be completed by adding "$d\lambda$". The meaning of the definition would be clearer by an explanation of why each of these integrals should not be normalized in some way so as make them independent of the arbitrary choice of units for the spectral energy function of the illuminant considered.

Page	Line	
25	2-3	The clause, "If the instrument measures area outside the absorption curve," requires clarification. Does the instrument not measure absorbance as a function of wavelength, or transmittance from whichabsorbance may be calculated? In what sense can it be said to measure area? If this is area beneath the curve formed by plotting absorbance as a function of wavelength, how can there be any area"outside the absorption curve"? If there is no easy way to clarify this clause, it might be advisable simply to delete the sentence commencing with this clause.

I address this letter to you by way of Dorothy Nickerson because I do not have your address here in St. Croix. When I left Washington last winter, I was not one of the voting delegates; so I did not bring the ISCC membership list with me.

Sincerely

Deane B. Judd

Deane B. Judd

Voting Delegate from the Optical Society of America
to the Inter-Society Color Council