

Draft  
**Minutes of the Annual Meeting of  
the TAG/ISO/TC172 — Optics and optical instruments  
January 22, 2008, San Jose, California  
at the Fairmont Hotel, California Room**

	<b>Attendees: (15)</b>	<b>Representing:</b>	<b>Absent Leaders (6)</b>
Tag Leader:		Digilab	Sid Braginsky
Admin:	Gene Kohlenberg	OEOSC	
SC1:		Leader SC1, Savvy Optics	D. Aikens
	W. Czajkowski	APOMA	
	A. Krisiloff	Triptar Lens Co., Inc.	
	Ray Williamson	Consultant	
SC3:	Gordon Boulton,	Leader SC 3, JDSU (Convener ISO/ TC 172/SC 3/ WG 2)	
SC4:		Leader SC4, Leupold & Stevens, Inc	Fritz Kaufman.
SC5:		Leader SC5, Nikon, Inc.	Lee Schuett
SC6:		Leader SC6, NIST	Charles Fronczek
SC7:	Charles Campbell	Leader SC7, Consultant	
SC9:	Robert Faaland (by phone)	Leader SC9, Convener ISO/TC 172/ SC 9/WG 4, FDA	
	Marla Dowell	IEEE/LEOS (NIST)	
	Lincoln Endelman	SPIE (Endelman Enterprises)	

General TAG:

### **1. Welcome and Introductions**

G. Kohlenberg opened the meeting at 0842 H. Since S. Braginsky was not available to chair the meeting, W. Czajkowski agreed to act as Tag Leader pro tem. He asked if there was a quorum. G. Kohlenberg said that there were about as many as usually attend and there should not be any action items that need to be brought to a vote. The one item that needs to be addressed is Tag Leader. He presumed that since S. Braginsky has started a new business, he has no time for other activities since he has not responded to any e-mail inquiries. S. Braginsky had been the Leader of ISO/TC 172 for several years, and it was presumed that he would be a great asset. M. Dowell said that she could contact Gordon Day, who knows S. Braginsky to get an update.

### **2. Adoption of Agenda**

M. Dowell moved that the draft agenda be adopted; A. Krisiloff seconded the motion. The motion carried.

### **3. Approval of Minutes of January 22, 2007 TAG Meeting**

C. Campbell moved that the corrected draft minutes of the previous Annual Meeting be approved; G. Boulton seconded the motion, which carried.

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### 4. Report of OEOSC

M. Dowell, OEOSC Chairperson, said the the Board met the previous day and approved a new training policy, and discussed the financial health of OEOSC, which is currently stable.

### 5. Report on ANSI/OP Status

G. Boulton reported that OP/TF 2 completed editing the second edition of OP1.002, “American National Standard for Optics and Electro-Optical Instruments – Optical Elements and Assemblies – Appearance Imperfections.” The first ballot will be distributed to the members of the Task Force, and then a second one to the entire OP committee upon approval of the Task Force. The next meeting is scheduled to be held in San Diego, CA, during August.

A. Krisiloff described the two activities under OP/TF 3. OP1.004 is intended to define optical surface and wavefront errors in terms of a statistical framework, and OP1.005 is intended to define the optical surface and wavefront errors in terms of a deterministic framework. At the meeting held this week a draft of OP1.004 created by Peter Takacs was reviewed. At issue was the decision whether the mathematics should be expressed before the terminology and notations are concluded. Steven VanKerkhove and Peter Takacs plan to organize a teleconference in the spring to maintain the drafting momentum. The intent is to have another meeting in Rochester, NY in the fall during the OSA Annual Meeting.

### 6. Review of TC172 Work by Subcommittee

- **SC 1 — Fundamental Standards, David Aikens**

The printed report was available on line. A. Krisiloff made verbal comments for D. Aikens who was conducting a training class.

An SC 1 meeting in Paris was held in June. The American delegation was David Aikens, Head of Delegation, Gene Kohlenberg, Allen Krisiloff and Ray Williamson. There were meetings for Work Groups 1, 2, 3, 4; however, the US delegation had no direct participation in WG 3 or WG 4. The issues for WG 1 and WG 2 centered around ISO 10110-5, “Optics and photonics – Preparation of drawings for optical elements and systems – Part 5: Surface form tolerances” and ISO 10110-14, “Optics and photonics – Preparation of drawings for optical elements and systems – Part 14: Wavefront deformation tolerance.” A highlight of the meeting was that the Russian and French desire to keep Method Two was defeated. The two countries will try to prove that that method is used around the world. An editorial issue was discussed in the joint meeting between WG 1 and WG 2. ISO editors do not allow a multi-letter acronyms for items such as “MTF.” D. Aikens did some research and discovered the editors were talking about equations listed to define a concept. “MTF” is acceptable to represent the modulation transfer function; however when an equation for MTF is given, a single letter must be used. D. Aikens found that optical text books have followed this convention for decades. C. Campbell wondered if ISO intended to limit the choice to 26 letters. G. Boulton said that both Greek and Latin letters are acceptable. Subscripts are also acceptable.

G. Boulton agreed to participate on WG 3, “Environmental test methods” by correspondence, and L. Endelman agreed to participate on WG 4, “Data transfer; contents and management.” L. Endelman said that D. Aikens had asked him to review ISO/DIS 25297-1, “Optics and photonics — Electronic exchange of optical data — Part 1: NODIF information model.” He has been reviewing the document. A. Krisiloff said that the project is a huge undertaking. WG 4 wants to create a comprehensive global database that would include part numbers of everything that is produced in the optics industry. A. Krisiloff said that the project is controversial. He believes that the French contingent has been dragging its feet to slow progress. Most members of the US delegation over the years have treated the project as a silly undertaking. It looks bad when the largest economic powerhouse on the planet refuses to participate in the ISO committee. So he told L. Endelman that he was doing a patriotic act by agreeing to participate on WG 4.

L. Endelman said that he has attended several WG 4 meetings and has discovered that the project is being pushed by the German delegation who have invested at least two decades into the project. It appears that there are several problems including proprietary and patented products. A lot of companies are reluctant to disclose any information. There is a questions about how this data will be disseminated. Who will collect the data, how will they collect it, and what are the limitations?

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C. Campbell asked how he would use this database. L. Endelman said that C. Campbell could look up items in the area of ophthalmic optics that would be of interest to him. M. Dowell said that one concern is that ISO wants to copyright the terms and symbols in the database. Any organization that wanted to use the information would have to pay ISO a royalty.

A. Krisiloff said that this is an old effort that predates the Internet. A commerce group in the United Nations has created an international directory of part numbers in an effort to systematize products by industry, similar to the US Department of Commerce's Standard Industrial Classification (SIC) codes, the North American Industry Classification Codes (NAICS) or the Universal Product Code (UPC) used by grocery stores. The fact that we now have the Internet makes this project kind of silly. There might be a hidden agenda that ISO is trying to corner the market to create a revenue stream for itself. ISO is a company, not a government agency.

L. Endelman said that M. Dowell is correct. One of the biggest sticking points in this project is the requirement that the information would have to be purchased.

He continued that there are disagreements concerning the terms to be used. The Germans were using a term "dictionary." He asked why they were using the English term when the German word for dictionary is Wörterbuch. He asked how they would resolve such conflicts, but did not get an answer.

G. Boulton said that the SC 1 annual report needs to be corrected to show that he agreed to participate on WG 3 not WG 4, and L. Endelman should be listed as participating on WG 4.

- **SC 3 — Optical Materials and Components, G. Boulton, JDSU Corporation**

Three Working Groups of SC 3 met in Kyoto, Japan, November 28 – 30. This was the first SC 3 meeting hosted by Japan. The Secretariat had been transferred from the French AFNOR. Attendees from the US were G. Boulton, A. Krisiloff and Leonerd Hansen from NIST.

WG 1, "Raw optical glass" is working on a Committee Draft (CD) ISO/CD 12123 which covers the specification of raw optical glass. The draft will now become a Draft International Standard (DIS). The WG is also working on a round-robin method for specification of striae that was proposed by the Japanese. If the round-robin is successful, it will become an approved Work Item (WI).

Similarly, they are developing a methodology for a round-robin concerning the classification of climate resistance of optical glass. This will be similar to heat and humidity. Countries are encouraged to participate in the round-robin so that there will be sufficient votes to make the project a Proposed Work Item (PWI).

WG 2, "Coatings" is revising three of the four parts of ISO 9211, "Optics and photonics – Optical coatings." Changes in Parts 1 and 2 were minor and are being advanced to the CD stage. In Part 2, "Optical properties" an alternate method of specifying the canonic cut-off slopes for optical filters. This change was urged by the US make the standard conform to standard practice by the film industry. Part 3, which was already in the DIS stage had a bunch of last-minute changes proposed by the UK. A series of compromises that were classified as editorial made it possible to continue moving the document through the approval process. The updated version of Part 4 was released in 2006, but shortly afterward an error of omission was discovered. There is a specification for the adhesive properties of tape used for coating adherence testing. The method for determining the "stickiness" of the tape was not specified. G. Boulton was volunteered to be the project leader for a new update of Part 4. His proposal for the update is due by the end of March 2008.

The Japanese proposed a new WI that was a conceptual approach for developing an instrument to very accurately measure broadband reflectance of optical elements to an accuracy of  $\pm 0.1\%$ . That should be achievable using certain laser-based instrumentation. They will have to decide whether the project belongs in SC 3 or SC 9.

A. Krisiloff said that a topic that was not part of the official agenda was brought up by Schott. Their representative expressed concern about the Restriction of Hazardous Substances (ROHS) requirements for glass in Europe. Lead is currently exempt, but the exemption made be withdrawn. There could be unintended consequences. Certain microscopes used for cancer research require glass elements that contain toxic components. If the glasses are banned then cancer research will be halted.

W. Czajkowski asked who are conducting the round-robin tests. G. Boulton said that Hoya, Ohara and Schott were the participants, with Ohara taking the lead.

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- **SC 4 — Telescopic Systems, M. Bierig for F. Kaufman, Leupold & Stevens, Inc**

The Secretary said that Leupold & Stevens had sent M. Bierig to the last international meeting. He provided his Head of Delegation report and the resolutions from the international meeting for the annual report.

- **SC 5 — Microscopes and Endoscopes, L. Shuett, Olympus America, Inc**

L. Shuett was not able to attend this meeting, but supplied a written report.

- **SC 6 — Surveying Instruments, Joe Evjen, National Geodetic Survey, NOAA, USDOC**

J. Evjen was a new representative. He has not submitted a report. Charles Fronczek from NIST had been the leader for many years. He retired and recruited Joe.

- **SC 7 — Ophthalmic Optics and Instruments, C. Campbell,**

C. Campbell said that SC 7 had a meeting in Tokyo at end the of October. There were a number of organizational changes in operating the subcommittees. SC 7 works somewhat differently than other SCs. Generally when a project is completed, the Working Group is disbanded. SC 7 has perpetual Working Groups that are organized according to the various areas of ophthalmic optics. Under the direction of these WGs are projects that correspond to WGs in other SCs. Persons on projects will be designated at the beginning of a project with agreement that participation will continue until the project is concluded. There is a proposed limit to the number of experts participating on a project.

ISO has stringent rules concerning the time limit for completing draft standards. SC 7 finds that at the beginning of a project progress is slow because there are a lot of negotiations. If an SC exceeds the ISO time limit for completing a standard, ISO cancels the project. This means that SC 7 has to start the project all over. This slows the development of a standard even more. So they have decided that when there is a new WI or a systematic review, they will call it a Preliminary Work Item to move a project to the point that it can enter the ISO time-limited system. Systematic reviews now come every three years rather than the original five years. SC 7 has many standards that come up for systematic review. So the project leader will limit the areas that can be negotiated for updating to shorten the time line.

The French want only one method for measuring the power of a lens. Manual focimeters have been in use for fifty years. Automatic focimeters became available about twenty-five years ago. The automatic units are now used extensively. The two systems can report slightly different power because there is a slight difference in the size of the circles defining the measurement area. Most of the time the differences are insignificant. But the difference is a big deal to one person in France. France wanted every country to declare which method they would authorize. The US objects to limiting the measurement choice.

Normally a person does not buy spectacles from a foreign company, so eye glasses have not been a part of foreign trade. The Europeans insisted that the measurement process should be standardized, and they want tolerances tighter than the US found useful. So the US ran studies in the US and Europe to see what was actually being produced, and showed that Europe does not meet its proposed standard. Europe votes as an economic block and can push the standard through the system.

The frames group has decided that companies need a better way to communicate.

The FDA noticed that there were cases where eye inflammation could be traced back to the IV fluid that was used during ophthalmic surgery. There was no long-term damage, but there was some inflammation following surgery. There was a second concern about endotoxins on interocular lenses after they are produced. Ophthalmologists have not reported any problems with the lenses themselves. However, this has been brought up as a new WI.

There is a concern about the compatibility of new silicon hydrogel contact lenses with various cleaning solutions. Some cleaning solutions may be absorbed by the lens and then transferred to the surface of the eye creating an environment for bacterial growth.

The next SC 7 meeting will be in Berlin in 2009. The interocular lens group plan to meet in Sweden in May. The measurement group are contemplating a meeting in New York in June.

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L. Endelman asked if there were any representatives from Russia. C. Campbell said that there were none. There are some names on the list, but they have not attended a meeting.

L. Endelman then asked about any standards activity in the area of Lasik surgery or cataracts. C. Campbell replied that the interocular lenses cover the cataract situation. They completed an ANSI standard for laser surgery, but there are no plans to offer it to the international community.

A. Krisiloff said that SC 3 also has encountered the ISO time limit problem.

- **SC 9 — Electro-Optical Systems (and Lasers), R. Faaland, FDA**

R. Faaland said that SC 9 has not met again since the Boulder, CO meeting in 2006. However, two standards were published and four went through systematic review. There are ten documents in process. These documents are discussed in the written report.

The next meeting is scheduled to be held in Berlin in June of 2008.

The ISO Secretariat changed from Karlhanns Gindele (DIN) to Ralf Baur (DIN).

## 7. Old Business

### Increased Participation in International Standards Development

W. Czajkowski said that this was the outgrowth of a discussion that the TAG had with S. Braginsky concerning novel ways of increasing participation for the development of international optical standards. A. Krisiloff said that he started developing a presentation that could be given to executives of smaller companies to follow up on S. Braginsky's challenge to look for ways to replace the large corporations such as Kodak and Olympus America. Kodak has gone completely out of the optics business, and Olympus is now participating at the company level. He contacted several executives in the Rochester, NY area, and found surprising interest in standards development at the executive level. He said surprising because we do not see any ramifications of such interest. Therefore, S. Braginsky's challenge may be more on the mark than first meets the eye. It's a matter of reaching out by making presentations discussing the work that is being done. The executives are reasonably familiar with standards since their companies frequently have to deal with them. However, they are not cognizant about the standards development process. They do not understand why they would be asked to financially support standards development because they may be out of the standards development arena. He is only part way through developing that presentation. He will continue the effort.

L. Endelman said that he goes around to as many exhibitors that he can walk to during Photonics West to get information to the exhibitors concerning OEOSC and its programs. Many do not know what OEOSC is. He uses scratch and dig as an example. They all say that scratch and dig is important. One of the exhibitors was the Argonne Laboratory. The Secretary said that Lahsen Assoufid works at Argonne and has attended the wavefront measurement standard meeting. He continued that he had the OEOSC brochures to give to L. Endelman to use during his walk throughs, but could not find them after he got to California.

A. Krisiloff noted that C. Campbell had indicated that there were 31 American experts at the SC 7 meeting in Tokyo. SC 7 apparently has no problem with participation even though the other SCs do. Perhaps the tremendous economic activity in ophthalmics is driving the interest there. This may help explain more difficulty in attracting technical experts in some of the other areas that are not as economically active. M. Dowell said that some of the ophthalmic businesses are large as compared to the small classical optical companies. In the other areas companies such as JDSU and agencies such as NIST are the ones who are sending technical experts. When the cost of travel is a small part of a budget, then there is more willingness to participate. A. Krisiloff said that the challenge is to convince companies to commit what is a larger fraction of their revenue to support standards.

M. Dowell noted that thanks to OEOSC there were four more persons participating in international standards meetings in 2007. OEOSC made a \$5,000 investment to encourage this attendance. She continued that \$5,000 is a very small investment. If there were some way to market to smaller companies that if they could not send an expert, they could give \$500 toward sending a US expert to represent the US interest to an international meeting.

L. Endelman said that many of the smaller optical companies do not realize that they will have to comply with international standards in the future if they want to sell components and product in Europe.

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M. Dowell asked W. Czajkowski if small design houses in the US that have components manufactured overseas were using international standards. He said that was not necessarily true. Many manufacturers have internal quality plans that may not be ISO based. He continued that he never had a product rejected because ISO standards were not used in the process. G. Boulton had the same experience.

L. Endelman asked if they were referring to ISO 9000. W. Czajkowski said that many places have their own quality manual that has not been put through ISO 9000 scrutiny. When a customer audits one of these manufacturers, the manufacturer can show the customer how they manufacture their product. ISO 9000 is not a requirement to manufacture product. G. Boulton said that if a company has not been ISO 9000 certified, then the customer will audit them to see if the manufacturer's quality system is adequate.

W. Czajkowski said that many large companies have their own quality rating system that they use to audit a manufacturer to see if their quality system is adequate to produce the product.

L. Endelman asked if he should not continue using his argument in his discussions with vendors at trade shows. G. Boulton and W. Czajkowski agreed that it is not a strong argument. A. Krisiloff said that he does not see ISO standards as a barrier; however, understanding those standards helps the vendor to put into place a quality system that will stand up to scrutiny.

M. Dowell observed that SC 7 is an area where there are regulatory requirements controlling the sale of some of the product, while that is not the case in some of the other SCs.

W. Czajkowski said that he would like to invite A. Krisiloff to speak at an APOMA meeting. There is also a newsletter that is available for standards reporting.

At this point W. Czajkowski had to leave the meeting, so A. Krisiloff assumed leadership of the meeting.

### **8. New Business**

#### **Objectives of TAG for 2008**

G. Boulton suggested that there are a lot of good ideas contained in the minutes of last year's meeting. Since the TAG is without leadership, it should continue the projects proposed in the 2007 meeting. It might be beneficial to go through those minutes and collect any additional action items that were not assigned to S. Braginsky.

The Secretary said that one of the things that S. Braginsky wanted the TAG to do is to convince ISO/TC 172 to create a new SC to contain interferometry and spectrophotometry. A. Krisiloff remembered that S. Braginsky was looking at new disciplines that were growing while the more traditional ones were in decline. There is a shift in the industry and OEOSC and ISO should be responsive to that shift. The Secretary said that S. Braginsky mentioned a large corporation in the interferometer industry that could become the new Kodak.

#### **Other New Business**

The Secretary said that if S. Braginsky can no longer participate, then the TAG needs a contingency for TAG Leader. The TAG Leader has other duties in addition to conducting this meeting. The TAG Leader is responsible for combining the positions of the individual TAG/SCs into the unified US position for ballots submitted by ISO/TC 172. In 2007 the US abstained on a couple of ballots because there was no TAG Leader.

A. Krisiloff summarized by saying that M. Dowell would use her source to determine S. Braginsky's ability to act as TAG Leader. If he will not be able to continue then the TAG needs to recruit a new Leader. The Secretary said that that person should be technical so that ballots can be intelligently completed.

M. Dowell said that Gordon Day may be a suitable TAG Leader. If S. Braginsky cannot continue, she asked if Gordon Day should be recruited. The TAG agreed that he should.

#### **Time and Place for Next TAG Meeting**

M. Dowell observed that since the annual meeting is always held on the west coast, west coast experts attend. Should the TAG consider holding a meeting on the east coast to encourage other experts to attend? R. Faaland, who is on the east coast, said that he usually participates by phone because travel is too expensive. A. Krisiloff said that Photonics West is a huge conference, and there is no equivalent for the east coast. So he suggested that the TAG

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meet again in San Jose in 2009. M. Dowell replied that the TAG should give consideration to an alternate venue for 2010 with the goal of increasing participation.

G. Boulton moved that the 2009 annual meeting be held in San Jose, CA during the January Photonics West. C. Campbell seconded the motion, which carried unanimously.

### **9.Adjournment**

Since no other business came before the committee, M. Dowell moved that the meeting be adjourned; G. Boulton seconded; the motion carried. The meeting was adjourned at 10:25 H.