Draft

Minutes of the Annual Meeting of
the TAG/ISO/TC172 — Optics and optical instruments
January 22, 2007, San Jose, California
at the Fairmont Hotel, Cupertino Room

	Attendees: (15)	**Representing:**	**Absent Leaders (6)**
Chair:	Sid Braginsky	Digilab	
Admin:	Gene Kohlenberg	OEOSC	
SC1:	David Aikens	Leader SC1, Zygo Corporation	
	Walter Czajkowski	APOMA (Edmund Optics)	
	William Royall (by phone)	Eastman Kodak Company (retired)	
	Ray Williamson	Consultant	
SC3:	Gordon Boultbee,	Leader SC 3, JDSU (Convener ISO/ TC 172/SC 3/ WG 2)	
SC4:		Leader SC4, Leupold & Stevens, Inc	Fritz Kaufman.
	Chung-Chieh Cheng	Leupold & Stevens, Inc.	
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	
	Tom Lieb (by phone)	Convener ISO/TC 172/SC 9/WG 3, L.A.I. International/Lieb and Association	
	Daniel R. Neal	Wavefront Sciences	
General TAG:			
	Allen Krisiloff	Triptar Lens Co., Inc.	

1.Welcome and Introductions

S. Braginsky opened the meeting at 0830 H. He introduced himself saying that he was with Olympus for 30 years starting in 1970. During the last 12 years he was President of the corporation. He also worked in international standards for twelve years. He has been retired for two weeks and has started Digilab, and is very busy in the optical world. He had the opportunity to attend the SC 5 meeting in New York City the previous week. It was déjà vu. They were talking about things that had already been discussed for the past twenty years. He volunteered to lead the TAG to see if it could make some changes, not only in the US, but also internationally. He thanked everyone for allowing him to be the Chairman of ANSI/OEOSC TAG to ISO/TC 172. The other attendees then introduced themselves.

2.Adoption of Agenda

C. Campbell moved that the draft agenda be adopted; D. Neal seconded the motion. The motion carried.

3.Approval of Minutes of January 23, 2006 TAG Meeting

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

4.Report of OEOSC

D. Aikens stated that the Board met the previous day; OEOSC is solvent; there will be an increase in net funds for 2006 and funds should be stable for 2007. The Board would like to increase cash income so that it could support more international participation. There has traditionally been less participation on SC 1 than the other SCs.
S. Braginsky asked if the budget was submitted to all of the membership. D. Aikens said that the Board reviewed the budgets. OEOSC currently works on a two-year budget cycle. The budget for 2006 – 2007 was approved in 2005.
S. Braginsky said that if there is going to be more international activity there will need to be more sponsorship.

S. Braginsky asked the Treasurer to give a summary of the budget. W. Royall said that he was at work and his notes were at home. The Secretary said that he could put the budget summary up on the screen.

Income		
2006 Fees	$43,116.87	
Training	$12,229.55	
Savings Interest	$180.58	
Sale of Standards	$271.50	
Other	$1.92	
Total	**$56,800.42**	
Expenses		
Administrative	$24,171.24	Wages & Salary, travel, fees, other
Preparation of Standards	$388.10	
Training	$377.50	
ISO – Boulder	$4,217.20	Does not include SC9 expenses
Dues	$18,790.00	ANSI
Total	**$47,944.04**	
End of 2006:		
Checkbook balance	$11,527.50	
Savings balance	$60,986.94	
Total Cash	**$72,514.24**	
Change in Assets	**$11,403.51**	

C. Campbell remembered that there was going to be a change in support to OEOSC from the Center of Optics Manufacturing (COM) at the University of Rochester. He asked what happened. D. Aikens said that COM had supported OEOSC by managing the website, providing secretarial services, e.t.c. After the death of its Director, Harvey Pollicove, the U of R disbanded COM. In order to compensate for the loss of assistance OEOSC has started to provide a training class covering the use of the optical surface imperfection standard using volunteer instructors. This course fulfills two purposes: 1) provide a revenue stream, 2) give OEOSC an opportunity to proselytize its standard. We no longer have major corporate sponsors for SC 1. None of the small US optics companies can contribute enough to keep the standards development operation solvent. At the present time the Association of Precision Optics Manufacturers, who W. Czajkowski represents, is the largest backer for the TAG/SC 1, but not to the level that would cover all of OEOSC's expenses. So two years ago OEOSC had to decide whether to live on a subsistence budget or grow its revenue stream.

S. Braginsky asked how this budget affects participation on the international level. D. Aikens replied that in 2004 the budget was increased to include a line item that could be used to subsidize travel to international meetings. S. Braginsky asked about the US hosted meeting in 2006. D. Aikens replied that NIST had agreed to open their Boulder facilities for SC 1 and SC 9 to meet in June. He said that he felt that, by and large, the success that the US had at that meeting was primarily due to the ability to have the meeting here in the US. The TAG/SC 1 was able to have more experts attend the meeting.

G. Kohlenberg said that the last time that the US had hosted TC 172 was in 1995 when Bob Parks arranged for the entire TC to meet in Tucson, AZ.

5.Report on ANSI/OP Status, D. Aikens

D. Aikens reported that there is a Task Force updating OP1.002-2006, which covers optical surface imperfections, to include measurement in addition to a relative visual test. There is also a second Task Force working on optical wavefront measurement. It is developing two standards, one covering mid spatial frequency ripple and the second is dealing with surface form. S. Braginsky asked how many attended each meeting. D. Aikens said that there were about ten.

6.Review of TC172 Work by Subcommittee

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

The printed report is available. SC 1 has ten projects running:

1. ISO 10110-5, surface form;
2. ISO 10110-7, surface imperfection;
3. ISO 10110-12, aspheric surfaces;
4. ISO 10110-14, transmitted wavefront specifications;
5. ISO 14999-2, surface an waveform measurement;
6. ISO 14999-5, measurement methods;
7. FDIS 15529,measuring MTF;
8. Raw optical glass has not be assigned a number, yet;
9. WI 23584, specification of a reference dictionary;
10. WI 25297, NODIF electronic change of optical communications

S. Braginsky thought that there were two other committees working on NODIF definitions and data transmission. S. Braginsky said that it has been going on for 15 years. It was originally driven by the British experts. D. Aikens added that the optical communication project is in SC 1/WG 4 and is intended for interactions between lens design programs and manufacturing equipment.

D. Aikens said that WI 23584 is at the TC level and is driven by DIN to mimic some of its electronic data communication systems for a global reference dictionary, including everything from automotive parts to grocery store signs. S. Braginsky confirmed that that is an ISO level project. It is an outgrowth of the original British project. L. Endelman added that the project is greatly expanded. S. Braginsky continued that it makes it impossible to accomplish.

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

G. Boultbee said that there were no meetings in 2006. The Secretariat moved from AFNOR to JISC.

SC 3 petitioned ISO to reduce the number of participating countries from five to four because of poor participation.

In WG 1, a draft was written to replace ISO 12123, Raw optical glass. The US had abstained, but there were enough others voting to continue with this Work Item. G. Boultbee received no input from any US experts , so he unilaterally voted yes and indicated that he would participate to the point of reviewing drafts. DIN is leading the project, and Schott Glass is one of the companies involved.

G. Boultbee is the Convener of WG 2. ISO 9211 covers optical coatings. The revision to ISO 9211-4 was published in 2006. ISO 9211-3, which pertains to environmental tests, was revised and edited by G. Boultbee incorporating suggestions primarily by Germany. It was completed in December 2006, and returned to JISC for distribution as a final DIS. There were ballots for two new work item proposals to revise ISO 9211-1 definitions, to replace crude drawings with actual photo micrographs. He voted the US position as agreeing, since there was no other US input. The second WI was ISO 9211-2, optical properties of coatings. The Germans proposed to revise it. G. Boultbee voted the US position positively. JISC proposed an SC 3 meeting in Kyoto in fall of 2007. S. Braginsky added that that meeting may be combined with a trip to China.

S. Braginsky noted that much of the reported work was periodic revisions of the documents. Other than adding the photo micrographs, what specifically is new. G. Boultbee said that there have been advances in optical coatings,

particularly for the telecom industry, for narrow-band filters. S. Braginsky asked if that work was not being done in IEC. G. Boultbee replied that he was talking about optical filters, and he did not know if the IEC was looking at similar issues. S. Braginsky said that he thought the IEC was looking at optical filtration.

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

C. Cheng represented F. Kaufman. He said that the committee was working on image intensifiers for night vision devices. They revised three standards:

1. ISO/WD 14490-8.2 Optics and photonics – Test methods for telescopic systems – Part 8: Test methods for night vision devices;
2. ISO/DIS 21094 Optics and photonics – Telescopic systems – Specifications for night vision devices;
3. ISO/DIS 14132-5 Optics and photonics – Vocabulary for telescopic systems – Part 5: Terms for night vision devices

S. Braginsky asked who the leader of this effort is. C. Cheng said that Russia has assumed responsibility for the SC.

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

The written report is available. L. Shuett had business that prevented him from being at this meeting. He apologized for not being able to attend.

S. Braginsky said that he attended the meeting where there were representatives from Britain, Germany, Japan, China, Switzerland and Austria. He actually sat with the German delegation. The items covered are

1. ISO 8038-2:2001Screw threads for microscope objectives;
2. ISO 8255-1:1986 Microscopes - Cover glasses;
3. ISO 9344:1996 Microscopes - Graticules for eyepieces;
4. ISO 10935:1996 Microscopes - Interfacing connection type C;

There was a long discussion about new items that included basic requirements for light microscopy used with a spectrometer. One of the new projects concerned requirements for application related spectral transmission classification for microscopes that are used as spectrometers.

WG 6 met for one day to review terms and definitions.

WG 8 discussed immersion media for light microscopy.

- **SC 6 — Surveying Instruments, Charles Fronczek, NIST**

No report was received. S. Braginsky asked Secretary to request a report again to be included with minutes. (Since this meeting the Secretary has learned that C. Fronczek has retired and a new leader must be recruited.)

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

The report is available. SC 7 met in Bahn, Switzerland in the spring; 30 members were present.

There was also a short meeting of TC 172 where the new chairman was introduced. C. Campbell wanted to bring a matter discussed at that meeting to the attention of the US TAG. A group of SC 7 member countries were concerned that some countries were not adopting ISO standards as national standards. This group wrote a letter to the ISO Central Secretariat asking what the ISO policy was concerning national adoption of ISO standards. Some were outraged that ISO took a neutral view. The US SC 7did not sign this letter of complaint because it has found that there are times when there are items in an ISO standard that are not suitable for the US market. ANSI Z80 is a consensus organization whose standards are not legally binding. Z80 members cannot be forced to accept international standards.

S. Braginsky said that the original purpose of ISO was to facilitate global transfer of information as well as goods. The end user would be able to measure performance in a standard way. This became a non-tariff barrier and the US objected to this 25 years ago. In Europe ISO standards are legal and are self administered. A company gets a TUV rating, and its products are compared to the ISO standard to see how the product performs. In the US it is more flexible. He said that one day US companies will wake up to the fact that they will not be able to send their goods into Europe.

C. Campbell said that the US does participate actively in the creation of SC 7 international standards, and ANSI Z80 takes the central portion of international standards and incorporates them into the US version. Sometimes the US includes additional items that are not in the corresponding ISO standard. With respect to spectacle lenses, he does not think that there are requirements in which the US standards are at cross purposes with the international standards. Z80 watches closely to make sure that there are no conflicts.

S. Braginsky reiterated that in Europe ISO standards are legal documents. This has been a constant battle between the voluntary standards group and the legal standards group in that the US delegation feels that in Europe standards are non-tariff barriers. The US also believes that legal standards restrain its engineering capability to innovate and bring out new products, which is diametrically opposed to the European approach, which assumes a more conservative long term use of products by the end user. He said that he had been on the DIN side and understands how it works. He remembers that the FDA came to one of the early meetings saying that if the US did not have proper standards through ISO, they would adopt DIN standards.

C. Campbell said that the FDA has told Z80 that they will use its standards when it pleases the FDA. It is a one-way street. S. Braginsky said that if a company is going to be a global participant, they will have to be very concerned about ISO standards. C. Campbell agreed absolutely. US companies are advised to be cognizant not only of US standards, but also the ISO standards. In his experience complying with both types of standards is no more difficult than complying with either one of them.

T. Lieb said that it behooves our national standards bodies to make our national standards more harmonized with the international standards rather than just giving advice to participating companies that it would be in their interest to do it the European way. The FDA is about to release its harmonized standard and permits the use of IEC 60825-1, "Safety of laser products" substantially for compliance with 21 CFR 1040, "Performance Standards for Light-Emitting Products." Likewise, the medical standard IEC 60601-2-22, "Medical electrical equipment - part 2: particular requirements for the safety of diagnostic and therapeutic laser equipment." No matter how much we want to resist it, the US is living in a flat world, and it is in its best interest to participate in the development of international standards and influence them where we can. Where we cannot change the international standard, we are going to have to adapt the US standard so that we do not have to make different products to sell in Asia, Europe or the United States.

S. Braginsky said that the point has been well made that we have to get more US participation in the development of international standards so that they can reflect some of the US needs.

C. Campbell said that if there is going to be a useful standard in China or Japan, they will have to be in a form that can be read. Currently ISO standards are printed in French, Russian and English. Those countries have to create their own translations so that they can be read. S. Braginsky said that it is not a problem in Japan, while it may be in China, but computer translations will minimize that problem quickly.

It is becoming a flat world; need to participate and adapt where we can. A company should not want to have to make different products for Europe than are sold in US. S. Braginsky said that US must become more active to get the ISO standards to meet US needs.

A. Krisiloff asked if he understood correctly that there is some controversy on the SC 7 committee level about American acceptance of international standards. C. Campbell replied the US has said that it reserves the right to create its own national standards, but it does use all of the requirements with the exception in the spectacle lens area where there is disagreement. Originally the international requirements were included for spectacle manufacture, but the US manufacturers complained because good product would be rejected if the standard were followed.

A. Krisiloff asked what was the specific controversy. C. Campbell said that certain sections of the European community would like the international standard to become the national standard, too. A. Krisiloff asked why Europeans care if the US does that. S. Braginsky said that you cannot ship US products unless they conform to that

standard into Europe. S. Braginsky added that the EU members have agreed to adopt ISO and IEC standards as their own national standards. Britain is not part of the EU. Britain chooses when to adopt and when not to adopt, and its manufacturers do not have to comply with ISO standards for British sales. The US, in general, does not adopt international standards as national standards. S. Braginsky gave an example. The Germans made an ISO microscope screw standard where only they could make the screws. It was adopted because they got Austria, Switzerland, and two other countries to join Germany in voting for the standard. US and Japan were nae sayers. Eventually the standard was revised to relax the tolerances. It is easier for smaller European countries to comply with an international standard than to try to develop one of their own.

A. Krisiloff asked if there was something special that caused this controversy to erupt in SC 7. S. Braginsky said that this issue usually occurs in SC 7 and SC 9 because there are safety issues for medical applications.

D. Aikens asked if there has been a position of the US TAG concerning this issue. S. Braginsky said that twenty years ago the the US representative agency to ISO (before ANSI became that representative) had agreed to follow international standards as long as they did not cause conflict with US interests by creating trade barriers or impede engineering innovation. That US representative to ISO and IEC agreed to the ISO policy that international standards take precedent over national standards.

D. Aikens continued that OEOSC is currently debating whether it should urge ASC OP to adopt international standards as US standards. C. Campbell said that Accredited Standards Committees have to create consensus standards voted upon by the members of that group. If it looks at an international standard as a draft for a national standard, it can choose to adopt it verbatim, or it can decide to make modifications, which are voted upon by the body who is responsible. D. Aikens continued by asking if ANSI wanted standards committees to make customized US national standards or does it want the standards committees to adopt ISO standards verbatim. S. Braginsky said that ANSI wants the US to increase its participation on ISO committees so that US standards are part of the set of international standards. In general the US optics industry does not support standards. There were a few companies such as Eastman Kodak and Corning who were active in standardization, but they are no longer involved. The lack of participation is a serious global issue.

M. Dowell said that there are two issues: 1) to get more participation in the development of optical standards, 2) to get US optical companies to recognize national vs. international standards.

S. Braginsky said that there are some legal standards in the US. There are military standards that are legal. The FDA also has legal standards.

A. Krisiloff summarized this discussion about C. Campbell's report by saying that there is no practical ramification to the domestic operations. C. Campbell replied that if Z80 feels that there is an aspect of spectacle manufacturing that should be a requirement, but the international community does not concur, then Z80 would modify the US standard to include that requirement. A parallel to this is the example that California has tighter air-quality standards than other states. There are other instances where the international standard has tighter specifications than the US industry feels is required; then the US does not agree. S. Braginsky added that in the domestic market you can do whatever you wish with the exception of FDA requirements. However, if you ship a product to Europe that does not comply with the international standard, that product will be returned.

A. Krisiloff asked why C. Campbell reported the controversy. C. Campbell replied that he did because the issue is a controversy, and other SC members should be aware of it.

Continuing with his report, C. Campbell said that there is a new working group for measuring dioptric power, led by the Chinese. There were 19 standards published, many were revisions since the group has been working for 20 years.

The US has much experience with specification for finished spectacle lenses and finds problems with the ISO version.

There is a Group that works primarily on information transfer between manufacturing equipment.

SC 7 will meet in Tokyo in the fall.

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

R. Faaland's report is available. SC 9 held its meeting in June at NIST. He wanted to thank M. Dowell and her staff for the pleasant experience. There were eight standards published, of which two were revisions. Five were up for systematic review.

L. Endelman asked T. Lieb if he is the liaison between ISO and IEC on the joint ISO 1153 Safety of machinery document. T. Lieb replied that he is working to see if the proposal is an acceptable change. T. Lieb said that the issue has been worked out with the CEN people in Europe, and to the extent that they could with the US people. It is now going through the approval process in both ISO and IEC. It is a relatively benign standard by adding a clause which states that if you take a relatively simple measurement with an inexpensive acoustic meter, and the overall reading is less than 70 db, then there is no problem. If the reading is higher than 70 db then there are graduated steps to evaluate to see if there is a noise hazard. They removed those expensive test items that would clearly not a be a hazard.

D. Neal asked if T. Lieb had worked with Breck Hitz on this issue. B. Hitz is aware of it.

D. Aikens asked if the damage threshold notation is consistent with ISO 10110. T. Lieb did not know, but he could check to see.

T. Lieb said that this standard, relative to noise hazards, is written under a mandate for the Administration and Enforcement of Health and Safety Directive on machinery within the EU and the European Free Trade Association countries. It affects about 45% of the world consumer market for machines that are used within their countries. For companies that produce laser machines, this is, in effect, a mandatory standard if you want to sell the product in Europe.

He reported, with regret, the passing of Dr. Jay. R. Sommers and Dr. Gerald L. Wolf. They have been valuable members of WG 4, contributing to standards applicable to laser systems for medical applications. G. Wolf served form many years as the Convener of WG 4. J. Sommers frequently volunteered to record the minutes of WG 5 meetings.

Next meeting will probably occur near the end of 2008; the location is to be determined.

L. Endelman asked R. Faaland if he wanted to mention that SC 9 is contributing to the new on-line properties dictionary. R. Faaland replied that he presumed that most of the SCs would be contributing definitions and standardized terminology. S. Braginsky added that the SCs are mandated to do that.

D. Aikens said that in his report he stated that he would contact the ANSI/OEOSC TAG Chairperson to identify an expert who can represent the US in further discussions. S. Braginsky said that he would speak with the TC to see how the US can work with them. D. Aikens said that he wanted to express his concern; DIN is the leader for SC 1. The German delegation is trying to put cost information about every German product ever made into this dictionary. There is no equivalent group of experts for the US. S. Braginsky replied that there are probably no corresponding experts from any other country either. D. Aikens said that if this German data is added, it could be damaging to US commerce. S. Braginsky said that he is close to Pfortsheim, and will check into it.

L. Endelman said that there does not seem to be any agreement among the SCs as to why the dictionary is being prepared. There does not seem to be any agreement among the DIN persons on how to implement it. One of the problems is that there can be more than one word that means the same thing. S. Braginsky said that it was supposed to be designed so that a definition from each SC could be found because it is impossible to reconcile among SCs. For example the argument about the definition of wavelength went on for years.

C. Campbell did not remember seeing a notice about the dictionary being a requirement. S. Braginsky said he would ask the TC 172 Chairperson reissue the notice.

L. Endelman said that he does not know if each SC has appointed participants. He knew that SC 9 did because that is how he became involved. D. Aikens said that Elisabeth Leitner is representing SC 1. S. Braginsky said he thought she was doing it for several SCs.

7.Old Business

S. Braginsky asked if there were any old business. D. Aikens said that he forgot to report that SC 1 was going to meet in Paris at the end of June.

8.New Business

S. Braginsky was interested in how the TAG is going to pursue new business. China will become much more active, Russia is more active, and Eastern Block Countries are coming on board. The US seems to be falling behind, and is not a good leader.

He asked for new business from the floor.

M. Dowell has been meeting more than a year with some members of the American Association of Physicists in Medicine who are developing measurements for laser dosage limits. She knows of no ISO standards in this area, and does not know where in the standardization structure this fits. S. Braginsky said that it would be medical devices, safety. He continued that one cannot standardize medical procedures, but can deal with calibration. C. Campbell asked if it were a calibration issue. M. Dowell replied that eventually it could become a safety issue if the patient were overexposed. S. Braginsky said that there is a joint working group between IEC and ISO. The IEC has been much more aggressive in writing standards for safety and calibration.

T. Lieb said that TC 172/SC 9 and IEC/TC 76 both have medical working groups. TC 76 has one for laser products themselves, while SC 9 addresses accessories and such things as tracheal tubes, drapes, e.t.c. S. Braginsky said that came about through a series of meetings where IEC had a much stronger leader than ISO. He does not agree with that decision, and thinks that SC 9 could take a more aggressive position and look at devices for calibration.

D. Aikens asked if there was a subcommittee that addresses biomedical optical devices. S. Braginsky replied that there was not.

D. Neal asked if there is an attempt to reconcile ISO 10110 nomenclature with other standards. SC 9 spent several years defining the meaning of waveform before publishing it. He is not sure if SC 7 was aware of that. Is there any effort to harmonize terms between the different groups? S. Braginsky said that there was a group in TC 172 whose responsibility was to collect the terms from all of the SCs to at least place them so that anyone can find them. Elisabeth Leitner should know the status of that project.

D. Neal said that there were two standards that list the amount of energy that can be entered into the eye that list a difference of a power of two.

Objectives of TAG for 2007

S. Braginsky said that he does not understand why the US optics industry has always been so unsupportive, both financially and technically, in the development of optical standards. ANSI has not done much better. He asked if there are any suggestions, such as D. Aiken's proposal that the TAG petition the Department of Commerce, that the group could make for the TAG to pursue for more financial support. If there was more financial support then the TAG could provide more delegates to international meetings. Along with financial support we need more cooperation from corporate America to take their share of burden of actually writing the standards just as the current members of the TAG to TC 172, and others, take upon themselves. He recommended that the TAG urge TC 172 to expand its charter to include spectrometry and interferometry. There are a number of manufacturers in those industries that are optical: Varian, Perkin Elmer, Thermo Electron, Tyco. These are very large global corporations that have not been contacted to become active in standards development. He asked the group what industries TC 172 should be approaching. D. Aikens said that interferometry is under SC 1/WG 1. No US interferometer producers were working on standards until Zygo joined; 4D is becoming more active. He does not expect any active participation now that it has been purchased by KLA. So he does not see any further participation from the interferometry community. S. Braginsky suggested that Ken Levy (KLA) be approahed for funding. He also suggested that interferometry be moved to its own SC.

S. Braginsky said that he helped form the semiconductor standards group. But the group became powerful enough that they became international There was always a commercial issue with semiconductors concerning standardization. D. Aikens said that KLA will argue that there is no commercial advantage to working in standards. S. Braginsky counter was that there is no commercial disadvantage either, and if they are going to sell their products outside of the US, then if behooves them to participate in the development of standards.

S. Braginsky said that we need financial support and we need people, we need the corporations because they are the producers. The US needs ISO.

He continued by saying that the US is the largest producer of spectrometers in the world. Does anyone know those working on spectroscopy? Under the current system spectroscopy would be covered under in SC 9, but TC 172 should create an SC 10 to cover spectroscopy.

S. Braginsky asked if there are other areas that should be considered. M. Dowell asked if participation in standards is a problem for technologies than other optics. If its is then rather than having OEOSC go to the DOC to ask for $5,000 here and $5,000 there, wemshould look at the American Comparative Initiative (ACI), which was unfortunately tabled in 2006, but it does have bipartisan support for the coming year. OEOSC should ask for a line item for standards support because the US must develop standards, just as all of the other nations do, to be internationally competitive. The ACI is under the DOC. OEOSC could show that $50,000 per year for travel support, which is peanuts compared to the rest of the items that will be included in the ACI. But the payoff could be tremendous. S. Braginsky said that the reason this issue would be ignored is because the request would be for $50,000 rather than $50,000,000. M. Dowell said that if it were rolled in with the rest of the $50,000,000 requests OEOSC would need to have high-level individuals visit the NIST Director to lobby for this line item.

W. Czajkowski said that the TAG is sitting in a meeting room under the auspices of SPIE. SPIE and OSA could be approached to help lobby for standards support. G. Kohlenberg said that the Director of SPIE has asked about the status of OEOSC. Any specific actionable items could be discussed with him.

W. Czajkowski said that the optics and photonics markets in the US have changed significantly during the past 20 years. There are no large conglomerates that can support this kind of activity; the Kodaks in the world are gone. S. Braginsky said that Thermo Electron is about $10,000,000,000 in size. D. Neal pointed out that a lot of innovation now comes from small companies, however.

To give an example of new directions the optics industries were moving, S. Braginsky held up a small, complete spectrometer. He added that there are large companies, such as those in the auto industry, who have optical engineers. D. Aikens asked how OEOSC could those types of companies to participate. S. Braginsky said that DIN calls on these companies and makes a sales pitch.

M. Dowell said that she understood that standards work was government funded in Europe. S. Braginsky replied that standards work is only partially supported by European governments. Companies, such as Zeiss, pay the expenses for employees when they travel to meetings. M. Dowell continued by suggesting that European standards organizations are not paying fees equivalent to the $19,000 that OEOSC pays to ANSI each year. S. Braginsky agreed that OEOSC cannot afford to have a significant administrative staff.

D Aikens said that Germany has an administrative juggernaut that is participating in standards development. S. Braginsky agreed and added that if the OEOSC Director was a full time position then there would be no budget money for anything else.

A. Krisiloff said that it sounds as if S. Braginsky has ideas on solving the problem. S. Braginsky said that it has to come from corporations. We have to put together a presentation to show the corporations why they should be supporting standards. The company has to be made aware that although they may not be a primarily an optical company they have a need for optical standards. This effort should be divided among different industrial segments of which spectrophotometers and interferometers could be one.

C. Campbell said that there are companies such as Optimo, AMO, Alcon who understand this need for supporting standards. Perhaps the word has not gotten out to other segments in the optics industry. S. Braginsky reiterated that members of OEOSC have to suggest what companies should be approached, and then OEOSC should visit or write to the appropriate contacts to get a little more support. C. Campbell suggested that OEOSC could identify someone currently active in the TAG who could be the person who contacts other companies in his or her field to discuss why it is important for the new company to become active. This person could speak from experience.

A. Krisiloff said that there are those who think that standardization is uncompetitive. T. Lieb said that companies need to be active to make sure that the published standards do not reduce competitiveness. That has been his pitch as he has tried to get support for some of the activities he has been working on. If a company does not participate then it is letting others determine its fate, and the worst will come true.

D. Aikens said that Zygo sees that an international standard could jeopardize business. It takes valuable resources away from product development. They have to take a calculated risk that any international standard will

disrupt its business. They need to be aware of the standards activity and whether a competitor is assuming a lead role. It is a disadvantage to provide large support if competitors are not reciprocating.

L. Endelman said that when he and J. Oberheuser had great difficulty in getting corporations to attend OSA and SPIE standards meetings.

D. Aikens liked S. Braginsky's idea of approaching executives.

S. Braginsky said that OEOSC must show how international standards are switching away from convenience for US manufacturers to convenience to manufacturers of other countries. When a standard is balloted, it is one vote per country. Unless the US is participating at the development level, then it has no clout at the balloting stage.
D. Aikens agreed that voting is irrelevant because the standard will be approved. The US must have participation in influencing the writing of the standard so that it is satisfactory for US manufacturers. T. Lieb said that China is becoming active with ISO and IEC, and soon the US will not be able to sell product there if that product does not conform to international standards.

S. Braginsky asked each person to list those industries who should be enlisted into TC 172, and then suggest what corporate person within that industry should be contacted. Give these ideas to the Secretary so that there can be a teleconference to plan the next activity. OEOSC can then put together a proposal tailor-made for each company showing the effect of international standards on their business.

D. Neal said that China has different national standards in addition to ISO that they require US companies to comply with; however they sell products in the US that do not meet their own standards. The US must get more aggressive and force China to also recognize international standards when they are exporting.

9.Time and Place for Next TAG Meeting

The time of the next meeting was not set.

10.Adjournment

Since no other business came before the committee, D. Aikens moved that the meeting be adjourned; T. Lieb seconded; the motion carried. The meeting was adjourned at 1043 H.