NIST and Metrology Standards

The Precision Engineering Division of NIST sponsored a workshop in mid-August to get input from U.S. industry on how NIST could more fully support industry's metrology needs. From the invitation, the workshop's goal was to "...help identify specific needs within U.S. manufacturing industries...for measurements and standards support from NIST which is not currently being provided at all or is being provided in forms or with accuracies insufficient to those needs."

Although the official report of the industry suggestions for NIST support is several months off, it is interesting to review some of the suggestions from the industry representatives attending the workshop. In a joint consensus panel, the top two industry concerns were:

- Improved calibration accuracy, especially metric size standards; and
- Standards committee support by NIST, especially for ISO; NIST should lead the U.S. delegation.

Other topics brought up in the panel sessions of interest to the optics community were:

- Small manufacturers (perhaps read optics shops) face problems of getting certification by outside measurement services.
- Developing step height standards for calibrating interferometers.
- Encouraging NIST personnel to participate in and support ISO standards activities.

In all fairness, it should be said that there is quite active participation by NIST scientists and engineers in voluntary standards writing activities. Unfortunately, this participation is not well publicized and goes largely unrecognized. It should also be pointed out that a good part of the motivation for the workshop was a recognition on the part of the Precision Engineering Division that NIST was falling behind other national standards laboratories in the level of precision calibration they could support.

Going back to the suggestions for greater NIST support for precision metrology, I find it curious, but encouraging, to note as much interest from manufacturing industries in standards activities when at most optics-related meetings the mention of standards brings nothing but yawns. Could it be that the industry representatives from Boeing, Caterpillar, and GE know something that we in the optics industry do not?

When it comes to precision parts manufacture, I think most optics manufacturing shops should realize that the optics market per se is quite small. On the other hand, the need for precision parts in the automotive and computer industries is large and growing rapidly. Furthermore, the growing interests in ceramics and composites play right into the hands of the optical glass working manufacturers. These high tech materials cannot generally be worked by traditional metal machining technologies. Rather these materials require techniques familiar to all optical shops, bound abrasive grinding and diamond based tooling.

Those who have further suggestions on how NIST can support precision metrology or who are interested in the final report on the NIST Workshop on Metrological Issues in Precision-Tolerance Manufacturing should write to Dennis A. Swyt, NIST, Bldg. 220, Room A109, Gaithersburg, Md. 20899.

—*Robert E. Parks*