Supporting Advances in Science and Technology through Implementation of the United States Standards Strategy

Dr. Mark W. Hurwitz
President and Chief Executive Officer
American National Standards Institute

Luncheon Remarks
August 8, 2005
12:15 – 1:45 pm
(20-25 minutes speaking time)

Abstract: The U.S. standardization model resembles both the nation's political structure and economic structure. It is sector-based, driven by market needs, and relies strongly on diversity, decentralization, and the cooperation of private and public sector participants in order to meet the critical standardization needs of the nation. Today, however, the cultural, economic and regulatory factors that have helped to shape this system are being tested as the trend towards globalization draws increasing attention to standards that are relevant around the world, rather than regionally or locally relevant. In order to meet new areas of need in critical areas such as homeland security, nanotechnology, social responsibility and others, the traditional strengths of the U.S. system must be married with new requirements. Consensus, openness and transparency remain important, but they are joined by requirements for speed, relevance, and meeting the needs of public interest constituencies.

In late 2005, the U.S. will complete its first major review and revision for the *National Standards Strategy* (NSS) that was approved in 2000. The new document will be called the *United States Standards Strategy*.

Dr. Mark W. Hurwitz, CAE, ANSI president and CEO, will comment on the revision of the NSS, the relevance of various principles of this strategy to global standardization, and its impact on the metrology community.

Venue: Washington Hilton and Towers
1919 Connecticut Avenue, NW
Washington, DC

Time: 12:15 – 1:45 pm

Speaking Time: 20-25 minutes

Attendance: 700-800 (domestic): Senior managers, business owners, lead scientists, instrument manufacturers, staff of standards and calibration laboratories

30-35 (international): Heads of standards laboratories in other countries

Supporting Advances in Science and Technology
Through Implementation of the National Standards Strategy for the United States

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Slide 1 : Title

Thank you, ----------. Good afternoon everyone.

It is my honor and pleasure to bring you greetings from the officers and members of the American National Standards Institute Board of Directors, ANSI's members and its staff.

Earlier today, my good friend and colleague, Dr. Hratch Smerjian, delivered your keynote address. You also had an opportunity to meet Dr. William Alan Jeffrey, the newly appointed director of the National Institute of Standards and Technology.

I understand from reading a bit about NCSLI's history that the relationship between NIST and the National Conference of Standards Laboratories is long-standing and productive . . . in fact, I believe it is now nearing its golden anniversary.

Let us also consider for a moment that the relationship between metrology and standards goes back in time much further than a 50-year mark . . . In fact, this relationship travels back to the earliest days of recorded measurement when the "Royal Egyptian Cubit" was decreed to be equal to the length of the forearm from the bent elbow to the tip of the extended middle finger . . . plus the width of the palm of the hand . . . of the Pharaoh or King ruling at that time.

Jumping forward several centuries to 1120 AD, King Henry the First of England also standardized measurement by instituting the Ell, which was equivalent to the length of his arm.

Granted, these were very similar *approaches* to a unit of comparison. No doubt, however, the similarity of the measurement was closely tied to the height of the men and the lengths of their arms.

(pause)

I relate this analogy because it is not uncommon to see differences in standards. Usually, these differences are based upon any number of factors: cultural, political, legal, or financial.

Before I continue too far into this dialogue, I would also like to acknowledge that there may be some language discrepancies that may impact our understanding of each other during these remarks.

Let me explain . . . . For many of you, the term "standard" is most commonly associated with an object that defines or signifies the magnitude of a unit.[1]

For the American National Standards Institute, a standard is a document that captures the agreement of affected stakeholders.

Slide 2 : Impact of standards on the global economy

Standards are enablers of trade: they stimulate the economy and help to facilitate the vital exchange of goods and services between nations. NIST's parent organization, the U.S. Department of Commerce estimates that standards impact 80 percent of world commodity trade. This influence equates to more than $117 billion in our national economy. The numbers are already high and evidence shows that they continue to rise.

Standards are also documents that help to safeguard consumers and to protect the health and safety of our citizens. Standards provide governments with a technical base for health, safety and environmental legislation. They aid in transferring technology to developing countries.

(pause)

Standards and measurement are inextricably linked.

Without standards, a metrologist would have nothing against which to measure. And in turn, without metrology, standards would be nebulous and uncertain.

In the same vein, the protection of people and the global transfer of goods would be impossible without a comparable unit of measure or a common vocabulary.

(pause)

[1] NOTE FOR MARK: Standard: An object that under specified conditions defines, represents, or records the magnitude of a unit.

As an example, many of you are already involved in the burgeoning nanotech industry, where the need for standards has become a critical priority.

In June 2004, ANSI was approached by Dr. John H. Marburger, director of the Office of Science and Technology Policy (OSTP) in the Executive Office of the President. The Institute was asked to offer leadership in nanotechnology standardization activities to support academics, industry, the investment community, and government agencies currently working in this field. The most urgent need identified is for general terminology and nomenclature.

The path forward requires that everyone speak the same language.

Slide 3 : ANSI Mission

ANSI stepped forward and established its new Nanotechnology Standards Panel to coordinate the development of standards in this area.

Historically, we have taken action in response to the needs of industry and government when standards coordination challenges arise. With more than 85 years of experience facilitating U.S. standards-setting activities, ANSI offered its open and consensus-based system as the forum in which parties could come together for collaboration, cooperation and mutual benefit.

(pause)

For many industries, ANSI provides the forum where subject matter experts from the private and public sectors work cooperatively toward the development of voluntary standards that ultimately benefit the nation.

(pause)

The history of American National Standards Institute is rooted in partnership. It was founded in 1918 by five engineering societies and three government agencies that recognized the need for a focal point for standards coordination, harmonization and information. We were organized to serve as the coordinator of the U.S. voluntary consensus standardization and conformity assessment system.

We are not a government agency or a regulatory body. Nor do we develop standards. Our members do.

Slide 4 : Examples of ANSI-Accredited Standards Developing Organizations

There are some 200 ANSI-accredited standards developers across the spectrum of industry.

The National Conference of Standards Laboratories applied to ANSI for accreditation as a standards developer in 1992, joining a host of other standards writing bodies that you may recognize, including ASTM International, the American Society for Quality and Underwriters Laboratories.

ANSI-accredited developers address standardization needs in a multitude of fields. Alongside traditional engineering committees and design-based standards are new and innovative projects ranging from quality and environmental management, to standards for the service industry and most recently, for personnel certification programs.

Slide 5 : The U.S. Standardization Model

Each industry that we support has its own unique requirements.

The needs of the aerospace and automotive industries are quite different from those in chemical and construction. Issues in electrical and information technologies may overlap, but not be aligned with, the needs of the medical, tourism or other service industries.

The U.S. focuses on a "bottom-up" approach to standardization. This means we let the market dictate what standards it wants and needs, and which standards it will implement. This approach gives the U.S. standards system its strength. It also gives ANSI an incredibly unique perspective in the increasingly competitive global standardization arena.

Slide 6 : U.S. Member Body of the ISO and IEC

Our seat at the international standardization table gives interested U.S. parties immediate access to the International Accreditation Forum, the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC).

We play a leading role on the ISO Committee on Conformity Assessment (ISO CASCO), the policy group responsible for writing standards and guides for the effective operation of conformity assessment bodies and activities. It is ISO CASCO that took the lead in developing the latest update of ISO/IEC 17025: *General requirements for the competence of testing and calibration laboratories.* As I'm sure this audience knows, the latest updated of 17025 was published earlier this year.

Slide 7 : Two American National Standards for Laboratory Calibration

This document is one of two standards for calibration laboratories used in the U.S. The other is your own standard: ANSI/NCSL Z540-1-1994, *Calibration Laboratories and Measuring and Test Equipment—General Requirements*.

NCLS Z540-1 has been an American National Standard since 1994, and is based in part on ISO/IEC Guide 25, and in part on a Department of Defense standard that has since been canceled. ISO/IEC 17025 came onto the stage in 1999 as the international standard for accreditation of calibration and testing laboratories and was subsequently adopted for use as an American National Standard in 2000.

Because the requirements of the two standards are different, some laboratories will meet the requirements of either NCLS Z540-1 or ISO/IEC 17025, while others will be accredited as having compliance to both standards. In most cases, a lab's consideration of one or both standards will depend on the needs of that lab's customers.

While being subject to two different standards can be confusing, it also offers a degree of flexibility for both the laboratory and its customers.

(pause)

Earlier, I mentioned that it is not uncommon to see differences in standards that are based upon any number of factors: cultural, political, legal, or economic. As you can see with the comparison of NCLS Z540-1 and ISO/IEC 17025, sometimes there are just different market needs.

U.S. stakeholders hold firm to their belief that the market must dictate which standards to implement for which purpose.

This is a basic tenet of the U*.S. Standards Strategy*, one of the most significant projects supporting science and technology that is now underway for stakeholders of the U.S. standards system . . . . and another initiative in which ANSI is playing a leading role.

Slide 8 : National Standards Strategy for the United States

By way of background, five years ago ANSI played a similar role in the development of the first-ever *National Standards Strategy for the United States*.

The first *NSS* reaffirmed that the U.S. is committed to a sector-based approach to voluntary standardization activities, both domestically and globally. It established a standardization framework that was built upon the traditional strengths of the U.S. system – such as consensus, openness and transparency – while giving additional emphasis to speed, relevance, and meeting the needs of public interest constituencies.

Since the approval of that document in August 2000, ANSI and its members have been actively engaged in the implementation of that *Strategy* and tracking accomplishments against it. Over time, we saw that the value of standards was becoming more and more apparent – in all industry sectors; across all levels of management; within federal, state and local jurisdictions; and by consumers and public interest groups.

(pause)

As a community, we have recognized the impact of globalization and the need for standards designed to meet stakeholder needs irrespective of national borders.

We saw the need for an environment that incorporates new types of standards development activities, more flexible approaches and new structures. And we saw that U.S. stakeholders needed to gather around a central framework to ensure our national well-being.

The *United States Standard Strategy* (USSS) is being developed to serve as this framework.

Slide 9 : United States Standards Strategy

Because each industry has its own unique requirements, it was critical that any consideration of the first NSS – and any possible revision of it – be developed through the coordinated efforts of a large and diverse group of stakeholders.

When ANSI convened the National Standards Strategy Committee, its members were carefully selected to ensure a widespread representation. Members of the Committee quickly agreed that its review process would be open, balanced and transparent.

Several subgroups were created for the purpose of advancing particular aspects of the project. Participation on the subgroups was open to all interested parties from the United States. A public forum, special "sector caucuses," numerous presentations, public announcements and an open call for comments were used as methods for soliciting input on the draft. During the past year, hundreds of individuals and organizations have participated in the review process.

I have reviewed the draft *Strategy* that has been developed and feel certain that it is written in a way that permits different groups to select and derive value from those elements of the document that resonate most clearly with their individual requirements. It identifies where there are standardization needs to be met, opportunities to do better and good work to reaffirm.

It is a high-level strategic document developed *by* U.S. interests *for* U.S. interests.

The United States Standards Strategy (USSS) is being written in a way that clearly supports the U.S. view that standardization should be driven by the marketplace and that the national standards of one country must not create unnecessary obstacles to trade. It will also promote the globally accepted principles for standards development expressed by the World Trade Organization during the Second Triennial Review of its Technical Barriers to Trade Agreement.

The U.S. is not alone in its pursuit of a national, strategic approach to standardization. The views some of our counterparts assert in their own national strategies may contrast sharply with those that we recommend.

All nations do not embrace the globally-accepted principles of standardization endorsed by the WTO. They do not invite to open and inclusive participation in standardization activities or balance the interests of all stakeholder groups so that the outcomes are representative and broadly supported.

Other nations may not respect intellectual property rights (IPR) and may try to impose the use of a national standard as a barrier to trade or as a mechanism for sheltering one of their own industry sectors.

And some other nations are effectively leveraging their greater resources to provide technical assistance efforts that will foster trade between their developed and other emerging economies.

In summary, the *U.S. Standards Strategy* is necessary as a counter-balance to the standards strategies of other nations. It calls for standards that meet societal and market needs and that do not act as barriers to trade.

Slide 10 : U.S. Standards Strategy (continued)

The new *Strategy* will continue to support the U.S. sector-based and market-driven approach to standards-setting. It calls for better coordination between the private and public sector, stronger support from the federal government, and a higher level of awareness of the value of standards.

It supports advances in science and technology by promoting an open, balanced and consensus-based standardization system that derives its strength from the input of all stakeholders.

(pause)

If progress continues according to plan, the new *Strategy* will be approved and published by year-end.

ANSI's Board of Directors will be the first entity to approve the *Strategy*. Then, we will turn to Congress, top-level government agencies and officials, industry leaders, trade and professional societies, consumer groups and others for support. Everyone has a role to play in implementation efforts.

(pause)

Hand-in-hand, the standardization and measurement industries provide the critical groundwork that support global trade and commerce.

Yet, with every tick of the NIST atomic clock, we face new demands. Case in point . . . . there is an urgent need for incredibly precise standards and measurement practices. In fact, the accuracy required of measurement standards doubles every ten years.

(pause)

"We cannot *solve* problems by using the same kind of thinking we used when we *created* them."[2]

(long pause)

There is little room for pause. Our choices must be deliberate, well thought out, carefully planned and executed. They must be strategic, and they must be aligned with the *United States Standards Strategy*.

I invite your support.

(pause)

Slide 11 : Contact Information

Thank you for your time and attention.

[2] Quote is from Albert Einstein

I welcome your questions.

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