

Statement of
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“China, Europe, and the use of standards as trade barriers: How should the U.S. respond?”

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Mr. Chairman and Members of the Committee, thank you for the opportunity to testify today on the topic of the role of standards in international competitiveness. Standards impact an estimated 80 percent of world trade and are a significant factor in competitiveness worldwide. We need to take seriously the challenges posed by the growing impact of standards on market access so that we can better position the United States and U.S. companies to compete in the global market. There is much work to be done to ensure that U.S. standards interests have fair opportunity to be reflected in standards used globally and that these interests are more effectively promoted in our most important markets, such as China. This need has become more real and apparent as more countries become active in the global market and the global standards arena.

To understand the global standards arena, you need to look at two types of standards – measurement standards and documentary standards. Measurement standards, which are the technical forte of the National Institute of Standards and Technology, are generic tools that are widely used by industry to support efficiency in the marketplace. These measurements are vital to international trade. For example, the way that I measure electromagnetic compatibility (EMC) or flow rates may not be the same way that a European or Chinese lab measures EMC or flow rates. Differences in measurements and lack of equivalency among national measurement systems can delay, and sometimes block, entry into foreign markets.

Documentary standards - standards embodied in written documents and promulgated by Standards Development Organizations (SDOs) - establish the fitness of a product for a particular use. These standards may address product features, performance, quality, compatibility, or other product attributes. Examples include the dimensions of lumber, rules for the construction and operation of steam boilers and pressure vessels, and specifications for film speed. There also are documentary standards that set

specifications for the function and operation of a device or system, covering everything from elevators and refrigerators to handicapped access. There are thousands upon thousands of standards like these that are invisible to most consumers but play a vital role in facilitating global trade.

The United States is a demand-driven, highly diversified economy and society, and its standards system reflects this framework. Our decentralized, sector- and technology-based standards system is diverse and inclusive. The system is based on a strong private-public partnership. In the United States, standards are typically developed in response to specific concerns and constituent issues expressed by both industry and government. This demand-driven approach contrasts with that of many of our trading partners, who favor a much more top-down, government-driven approach.

The U.S. standards system is highly decentralized and naturally partitioned for most applications into industrial sectors that are supported by numerous independent, private-sector standards development organizations (SDOs) – currently more than 450 such organizations, with at least 150 more consortia standards development activities underway. Approximately 20 SDOs develop about 80 percent of standards in the United States.

Without any central authority or direction from government, a wide variety of U.S. voluntary standards activities have proceeded very successfully along sector-specific lines for over a century. Although U.S. decisions about standards authority and responsibilities were not made deliberately with a view to providing support for U.S. efforts in international trade, they work well to support the domestic goals of protection of health, safety and the environment as well as specification of products, processes and systems.

The American National Standards Institute (ANSI), a private sector, non-profit organization founded in 1918 by several SDOs and U.S. government representatives, including the Department of Commerce, functions as a central clearinghouse and coordinating body for its member organizations, which in turn develop standards on a decentralized, consensus basis. ANSI is composed of more than 700 company members; 30 government agencies; 20 institutions; and 260 professional, technical, trade, labor and commercial organizations.

Government agencies support standards through direct participation in standards development, as well as through participation in policy activities of ANSI and specific standards developing organizations in which they have a direct interest. Many agencies are active participants in standards development, at both the national and international levels. This participation is encouraged by both law and policy. More than 3200 staff from 26 federal agencies participate in private sector standards development activities. At NIST, there are more than 350 participants, more than a quarter of our technical staff.

Government agencies are also major users of standards, to support regulation of health, safety, and the environment, as well as for procurement of products and services for

Federal use. We currently count more than 13,000 private sector standards in use by the Federal Government. This substantial Federal agency reliance on private sector standards reinforces the importance of globally recognized standards that facilitate the seamless flow of products and services across borders.

Both the U.S. government and private sector participate in international standards development in a variety of ways: through private, voluntary organizations whose membership is on a national body basis; through treaty organizations (governments are members); through professional and technical organizations whose membership is on an individual or organizational basis; and through consortia, whose membership is typically company and industry-based. We need to make effective use of our participation in each of these venues to ensure that U.S. interests are advanced.

Our decentralized, private sector and demand-driven U.S. standards system has many strengths. U.S. companies derive significant advantage from the system's flexibility and responsiveness. The government also derives great benefit from the system, both as a customer and user of standards. Government agencies play an important role in the U.S. standards system as advocates for the national interest, both here at home and globally.

The system serves the country well, but there is room for improvement. In particular, the growing importance of standards to international competitiveness dictates that the United States – both private and public sectors – move quickly to strengthen the interface between the U.S. standards system and the international system. This need was pointed out clearly two years ago by industry in response to questions posed by the Department of Commerce as part of its Standards Initiative.

The Department of Commerce's Standards Initiative was launched in March 2003 by then-Secretary Donald Evans specifically to address U.S. industry concerns that issues relating to standards and assessment of conformity to those standards in foreign markets were among the greatest barriers to expanding exports. U.S. businesses want a fair and equitable standards playing field and Secretary Evans directed the Department to assist them in achieving that balance where standards would ideally be judged not only on their technical merits but also on their developers' adherence to the principles of openness, transparency, balance or interests, due process and consensus. The Secretary's Standards Initiative was bolstered last year with a comprehensive report on *Standards and Competitiveness: Coordinating for Results*, which contains some 50 recommendations for moving forward. These recommendations respond in part to specific industry requests to the Department for action in key areas.

Examples of industry requests of the Department on standards issues include a desire for the Department to focus on China as the primary market where the United States should attempt to influence standards development and trade policy relating to standards; counter the aggressive promotion of European standards throughout the world; limit the potential for EU block voting on standards in international standards development organizations; increase pressure on countries to fully and effectively implement their

World Trade Organization (WTO) or Free Trade Agreement (FTA) obligations; and coordinating more closely interagency on standards issues.

In close collaboration with industry, the Department is pursuing an active multi-pronged strategy with respect to standards-related issues in China. This strategy includes continued engagement at the policy and technical levels to deal with specific issues as they arise, providing grant support where appropriate to U.S. standards developing organizations to open offices in China, posting a standards attaché to the U.S. Embassy in Beijing this summer, and sponsoring an ongoing series of both general and sector-specific workshops involving Chinese officials and relevant U.S. private and public sector interests. Regarding the issue of EU influence in standards on the international level, the Department is working with ANSI and industry to define and address these concerns at the policy level and also on a case-by-case basis.

The Department's May 2004 report also noted the importance of Department representatives participating in the revision of the U.S. Standards Strategy, which was first created in 2000 under the auspices of ANSI. The purpose of the strategy is to strengthen the U.S. standards system and to establish a framework for achieving goals related to both the competitiveness of U.S. industry and achieving a balanced global trading system. ANSI initiated the first effort to develop a national standards strategy in 1998, in response to a challenge from Ray Kammer, then Director of NIST. The strategy was published in August 2000.

The Strategy, currently under revision to reflect the new global environment, provides an excellent framework for strengthening the interface between the U.S. standards system and the international system. The purpose of a standards strategy for the United States is to establish a framework that can be used by all interested parties to further advance trade issues in the global marketplace, enhance consumer health and safety, meet stakeholder needs and, as appropriate, advance U.S. viewpoints in the regional and international arena. The U.S. Standards Strategy provides both a statement of the purpose and ideals that underlie the U.S. system and a vision for the future of the U.S. standards system in a more globally competitive economy.

The revised U.S. Standards Strategy is being developed in an open, balanced, transparent and participatory process. More than 100 representatives of industry; small, medium and large enterprise; standards developers and consortia; consumer groups; and federal and state governments have participated in the development and review process. The Strategy highlights key strategic imperatives that will maximize the strengths of the U.S. system and minimize weaknesses. NIST, and the Department as a whole, are strong supporters of the work being done by the American National Standards Institute and the U.S. Standards Strategy Committee to pull together a diverse set of stakeholders in the future of the U.S. standards system to update and revise the strategy.

A sectoral approach recognizes that there is no simple prescription that can be handed down to fit all needs. Sectors must develop their own plans; the purpose of the U.S. Standards Strategy is to provide guidance and coherence without constraining creativity

or effectiveness. The Strategy consists of a set of strategic initiatives having broad applicability which will be applied according to their relevance and importance to particular sectors. Stakeholders are encouraged to develop their own tactical initiatives where needed and this strategy suggests some which have widespread applicability.

The Strategy addresses opportunities for improvement in getting the message out about the principles and policies that both underlie the U.S. system and are key to the development of globally relevant standards, whatever venue stakeholders choose for their work. The Department will work closely with key players in the U.S. system to implement relevant elements of the Strategy. We will also continue our strong partnership with ANSI to support its role of coordination of the U.S. system and as member body of the International Organization for Standardization (ISO) and the International Electrotechnical Commission. U.S. membership in the IEC is coordinated by the U.S. National Committee to the IEC, through ANSI.

NIST has a variety of roles in the U.S. standards system. As the national measurement institute, NIST is frequently looked to for research and measurements that provide the technical underpinning for standards, ranging from materials test methods to standards for building performance, and for a range of technologies, from information and communications technologies to nano- and bio-technologies. Under the provisions of the National Technology Transfer and Advancement Act and OMB Circular A-119, NIST is tasked with promoting the efficiency of the U.S. standards system, by coordinating Federal agency use of nongovernment standards and participation in the development of relevant standards, and through promoting coordination between the public and private sectors in both the standards and conformity assessment arenas.

NIST is also directed by law to develop specific standards – cryptographic standards and applications, as well as guidelines, procedures and best practices for Federal IT security; biometric and voting system standards - and to help industry develop enterprise integration standards.

NIST technical programs support global recognition of U.S. standards, where relevant, as well as harmonization of standards to avoid barriers to trade. These programs take advantage of synergies with related Department of Commerce trade-related programs and with the private sector, and are critical to U.S. manufacturers' access to export markets. Two key outcomes of these programs are an expanded network of foreign officials knowledgeable about the U.S. system, and wider use and acceptance by foreign governments of U.S. products and standards that incorporate U.S. technology.

NIST's proposed FY06 initiative on standards in support of global trade addresses specific needs of U.S. businesses seeking to compete successfully in global markets. The initiative supports U.S. competitiveness by ensuring that innovative U.S. businesses are equipped to satisfy global as well as U.S. measurement and standards requirements, thus enabling rapid response to changes in technologies and early identification of new and non-traditional measurement and standards needs. Specific activities include targeted measurement intercomparisons with national measurement institutes in key markets,

leadership in key documentary standards development activities in new technology areas, and expanded standards-related information relevant to key markets

With this year's National Export Strategy, the U.S. government is also making improvements on the trade promotion front. U.S. government agencies, led by the Secretary of Commerce under the Trade Promotion Coordinating Committee (TPCC), are collaborating to improve the government's standards-related trade promotion efforts. We are currently developing a strategy through which we can - working with the private sector - do a better job of promoting U.S. standards interests in our most important markets, such as China.

We intend to partner with U.S. industry and standards developers to more effectively promote the virtues of an open, transparent and impartial approach to standards development and implementation. Both U.S. standards interests and policy objectives will be served when the governments of our most important export markets are convinced of the strengths of this approach versus alternatives that are less open and transparent, and more subjective.

We recognize that the government and private sector must each leverage our scarce resources. The TPCC strategy endeavors to develop an ambitious partnership with U.S. manufacturers and service providers, and the U.S. standards community, to better promote U.S. standards interests in our most important markets.

NIST plays a major role in maintaining the measurement infrastructure necessary to advance U.S. interests in international trade, commerce and regulatory affairs. Manufacturing and measuring are two sides of the same coin. If you can't measure, you can't manufacture, at least not up to the expectations of increasingly demanding customers. And if you can't assure those measurements to other companies and consumers here and abroad, you probably will lose them to competitors.

So I am very pleased to announce today that the National Institute of Standards and Technology is launching a comprehensive effort to roadmap America's measurement needs. The nation's measurement system is a vital element of our innovation infrastructure. The goal of this very important initiative -- which will be undertaken in close cooperation with the private sector and other agencies -- is to ensure that the nation's highest priority measurement needs are identified and then met. Working with others, NIST will develop and publish a U.S. Measurement System roadmap on a regular basis. We will report to our customers and stakeholders on what needs to be done by NIST -- and others -- to address American's measurement needs. NIST will hold workshops in specific areas and encourage others to also hold workshops to identify priority needs. NIST then will sponsor a summit to focus discussions on how to meet those needs. We need to be certain that the U.S. measurement system is robust so that it can sustain America's economy and citizens at world-class levels in the 21st century. The initiative recognizes the growing importance of both international measurement system and its intersection with international standards.

We recognize the global challenges posed to U.S. competitiveness, in both the documentary and measurement standards arenas. Now more than ever, in an environment of increasingly scarce resources and many competing demands, we need to create and implement mechanisms that will enable both the public and private sectors to make informed choices about how best to invest resources to achieve the greatest impact. Together, stakeholders in the U.S. standards system are collaborating to lay out a comprehensive strategic approach, implemented through effective private-public partnership, to better position the United States and U.S. companies to compete in the global market. Progress will require communication, cooperation, planning, and a commitment to action. NIST is committed to the success of this effort. Thank you for allowing me to testify today, and I would be happy to answer any questions.

Hratch G. Semerjian, Acting Director

Hratch G. Semerjian is the acting director of NIST. NIST's former director, Arden Bement, Jr., began serving a six year term as Director of the National Science Foundation in November 2004.

Dr. Semerjian has served as the deputy director of NIST since July 2003. In this position, Dr. Semerjian is responsible for overall operation of the Institute, effectiveness of NIST's technical programs, and for interactions with international organizations. NIST has a total budget of about \$858 million, and a permanent staff of about 3,000, as well as about 1,600 guest researchers from industry, academia, and other national metrology institutes from more than 40 countries. Most of the NIST researchers are located in two major campuses in Gaithersburg, Md., and Boulder, Colo. NIST also has two joint research institutes; the oldest of these is JILA, a collaborative research program with the University of Colorado at Boulder, and the other is CARB (Center for Advanced Research in Biotechnology), a partnership with the University of Maryland Biotechnology Institute.

Dr. Semerjian received his M.Sc. (1968) and Ph.D. (1972) degrees in engineering from Brown University. He served as a lecturer and post doctoral research fellow in the Chemistry Department at the University of Toronto. He then joined the research staff of Pratt & Whitney Aircraft Division of United Technologies Corp. in East Hartford, Conn. In 1977, Dr. Semerjian joined the National Bureau of Standards (now NIST), where he served as director of the Chemical Science and Technology Laboratory (CSTL) from April 1992 through July 2003. Awards he has received include the Fulbright Fellowship, C.B. Keen Fellowship at Brown, the U.S. Department of Commerce Meritorious Federal Service (Silver Medal) Award in 1984, and the U.S. Department of Commerce Distinguished Achievement in Federal Service (Gold Medal) Award in 1995. In 1996, he was elected a Fellow of the American Society of Mechanical Engineers. In 1997, he received the Brown Engineering Alumni Medal. Dr. Semerjian was elected to the National Academy of Engineering in 2000.