U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY
SUBCOMMITTEE ON TECHNOLOGY AND INNOVATION

HEARING CHARTER

Promoting Innovation, Competition, and Economic Growth: Principles for Effective Domestic and International Standards Development

Wednesday, February 29, 2012
10:00 a.m. – 12:00 p.m.
2318 Rayburn House Office Building

I. Purpose

On Wednesday, February 29, 2011, the Committee on Science, Space, and Technology Subcommittee on Technology and Innovation will convene a hearing to: examine the principles of effective domestic and international standards development processes; analyze how the Federal government, industry and other organizations promote these principles internationally; and understand how standards may be used as technical barriers to trade.

II. Witnesses

Ms. Mary H. Saunders, Director, Standards Coordination Office, National Institute of Standards and Technology.

Mr. S. Joe Bhatia, President and CEO, American National Standards Institute.

Mr. Philip Wennblom, Director of Standards, Intel Corporation.

Mr. Mark Grimaldi, Owner, Equinox Chemicals.

Mr. James Seay, President, Premier Rides.

III. Background

Standards play a critical role in the domestic and international economies. Standards establish rules under which different products and services compete in the global marketplace, allowing for uniformity or interoperability. Standards facilitate trade by providing product specifications around which exporters can design products. Standards enable cell phones from different service carriers to communicate with each other, ensure that appliances can be powered by electrical outlets throughout the United States, and allow software programs to operate on computers manufactured by different companies.

OMB Circular A-119, "Federal Participation in the Development and Use of Voluntary Consensus Standards and in Conformity Assessment Activities," states that the term "standard" or "technical standard" as cited in the National Technology Transfer and Advancement Act of 1995 (P.L. 104-113) includes all of the following: (1) Common and repeated use of rules, conditions, guidelines or characteristics for products or related processes and production methods, and related management systems practices; (2) The definition of terms; classification of components; delineation of procedures; specification of dimensions, materials, performance, designs, or operations; measurement of quality and quantity in describing materials, processes, products, systems, services, or practices; test methods and sampling procedures; or descriptions of fit and measurements of size or strength.[1]

While standards are crucial in providing certainty to industry, consumers, and governments, the process by which standards are developed or adopted is also of critical importance to economic competitiveness and to innovation. Standards that are adopted with consensus among stakeholders provide market assurances that can enable the emergence of innovative technologies. Standards that are implemented without regard to technology or market penetration can inhibit innovation, trade, and competition.

The timing of standardization is also important, especially with respect to emerging technologies. Stakeholders must weigh the benefits of market assurance through standardization versus the need to allow room for innovation and technology development.

Standards Development in the United States

Historically, standards development in the U.S. has followed a market-driven, voluntary consensus approach. This approach resulted in a standards development ecosystem where stakeholders engage with professional associations, standards development organizations (SDO), and standards consortia that have technical expertise in their respective product and service areas. Collectively these entities are known as Standards Setting Organizations (SSOs) and membership can consist of companies, federal agencies, non-profits, and other stakeholders. Through a consensus process, SSOs develop and adopt member-accepted standards. Traditional U.S. SDOs represent well-established industries that developed formalized processes for the proposal, consideration, and acceptance of standards. Typically, U.S.-based SDOs are open to any industry stakeholder, regardless of where their company is headquartered.

The National Institute of Standards and Technology (NIST) supports the development of standards through technical staff participation in SDOs—ensuring standards are based on sound science and supported by effective measurements and testing that promote conformity to and acceptance of the standards. As a non-regulatory federal agency, NIST boasts both breadth and depth of technical expertise, a reputation as an unbiased, neutral party, and a long collaborative history with the private sector.

The American National Standards Institute (ANSI) is a non-profit umbrella group for SDOs that accredits the standards development procedures of its member organizations, helps coordinate standards activities in the U.S., provides a forum for its members to discuss standards issues, and

[1] OMB Circular No. 1-119, Revised, February 10, 1998

is the U.S. representative to two major international standards bodies: The International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC). ANSI's membership includes major U.S. manufacturers, universities, government agencies, testing laboratories, and other entities.

International Standards Development

In contrast to the market-driven approach to standards development that has mostly dominated in the U.S., some global trading partners historically employed a more top-down approach to standards development the basis of which are political or regulatory factors. In many cases, companies are required to have locations or domestic industry partners in the host countries to participate in the standards development process. This approach makes it more difficult for U.S.-based Small and Medium-sized Enterprises (SME) to participate in the standards development process, which results in the adoption of standards that often puts these SMEs at a competitive disadvantage, even in cases where an SME may utilize superior technology.

In the global arena, the ISO is the world's largest developer and publisher of international proprietary, industrial, and commercial standards, operating a network of 162 national standards institutes across multiple industries. The IEC prepares and publishes standards for electrical technologies, including power generation, semiconductors, fiber optics, batteries, and nanotechnology. The International Telecommunication Union (ITU), a specialized agency of the United Nations, develops standards for information and communication technologies. While these organizations develop standards based on international political consensus, they utilize a voting system that allocates one vote to each participating country.[2] As a result, these processes may result in standards that reward suboptimal technology supported by regional trading blocs.

While ISO, IEC, and ITU are international in their makeup, they are not the only organizations that can develop international standards. Indeed, private SDOs can participate in international standards development by following WTO guidelines.

Established in 1995, the World Trade Organization's Agreement on Technical Barriers to Trade (WTO/TBT), sought to ensure that "technical regulations and standards, including packaging, marking and labeling requirements, and procedures for assessment of conformity with technical regulations and standards do not create unnecessary obstacles to international trade."[3] While the WTO/TBT Agreement does not select specific standards or SDOs as international, the WTO/TBT Committee established the following criteria for international standards development[4]:

- Transparency
- Openness
- Impartiality and Consensus

[2] ASME General Position Paper PS11-03, "Standards and Technical Barriers to Trade", January 2011.
[3] World Trade Organization "Agreement on Technical Barriers to Trade", Uruguay Agreement, 1995
[4] World Trade Organization Committee on Technical Barriers to Trade (2000), "Second Triennial Review of the Operation and Implementation of the Agreement on Technical Barriers to Trade."

- Effectiveness and Relevance
- Coherence
- Development Dimension

While these criteria tend to align with the voluntary, consensus driven approach that has dominated in the U.S., there are still significant differences in the interpretation and implementation of WTO/TBT guidelines among the U.S. and its trading partners.

IV. Issues for Examination

This hearing will explore the principles that support effective standards development processes, with respect to the effect of standards development on innovation, competition, and economic growth. The hearing will also analyze the ways in which the Federal government, industry, and other organizations work to promote the application of principles in the international standards development arena. Finally, the hearing will examine the ways in which trading partners may use standards as technical barriers to trade and will examine how the Federal government and other stakeholders seek to address these challenges in the global arena.

Witnesses have been asked to provide their perspective on: the principles of effective standards development; the role of both NIST and ANSI in the domestic and international standards development arenas; how companies engage in both domestic and international standards development; how companies have experienced the use of technical standards in countries to which they export; and actions the Federal government, SDOs, and other companies can take to minimize industry vulnerability to the use of standards as technical barriers to trade.