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Toward a National Standards Strategy

Conference Report

Krista J. Johnsen Leuteritz
Walter G. Leight

U.S. DEPARTMENT OF COMMERCE
Technology Administration
National Institute of Standards
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U.S. DEPARTMENT OF COMMERCE
William M. Daley, Secretary

TECHNOLOGY ADMINISTRATION
Gary Bachula, Acting Under Secretary for Technology

NATIONAL INSTITUTE OF STANDARDS
AND TECHNOLOGY
Raymond G. Kammer, Director

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PREFACE

The National Institute of Standards and Technology (NIST) and the American National Standards Institute (ANSI) co-hosted a summit conference, **Toward a National Standards Strategy To Meet Global Needs,** on September 23, 1998. NIST Director *Raymond Kammer* and ANSI President *Sergio Mazza* co-chaired a program that featured keynote addresses by Deputy Secretary of Commerce *Robert Mallett* and *Dana Mead*, the Chairman and CEO of Tenneco and World Standards Day Chairman; a luncheon address by *Evangelos Vardakas*, Director, Directorate General III-B, Legislation, Standardization and Telematic Networks, European Commission; three panels comprised of standards experts from industry and government; and discussions of comments and questions raised by registered participants.

A digest of the material presented at the conference, prepared by members of the staff of the NIST Office of Standards Services based on notes taken during the presentations, material provided by speakers, and audio tapes, was previously published as NISTIR 6259, Toward a National Standards Strategy, Conference Summary Report, in November 1998. The same material, with earlier typographical errors corrected, is reproduced here as the Executive Summary.

This more complete report of the Summit Proceedings contains full texts, figures, and such background papers as were provided by the speakers; they are presented in the order shown in the agenda. Transcriptions of comments and questions from the floor and the ensuing panelist responses are interspersed appropriately. Information about the speakers appears in Appendix A; the list of Conference attendees may be found in Appendix B; and a glossary of acronyms is provided in Appendix C.

The editors of this compilation take full responsibility for any inadvertent errors in the transcribed discussions or possible misinterpretation of speakers' views. Special thanks are due to Judith Baker, Maureen Breitenberg, Patrick Cooke, Christine DeVaux, Gerry Funk, Carmiña Londoño, JoAnne Overman, Marilyn Stream, Ellen Trager, and Silvia Williams, all of the NIST Office of Standards Services (OSS), for their assistance in preparing the two Summit reports. OSS also greatly appreciates the work of the very many members of the NIST and ANSI staffs whose tireless efforts made the conference possible.

EXECUTIVE SUMMARY

ROUNDTABLE I
Identifying U.S. Needs for Domestic, Regional, and International Standardization

Panel Moderator *Sergio Mazza* emphasized that the summit marked the beginning of a process, not a conclusion, and that the ultimate goals are to facilitate trade, support the competitiveness of U.S. business, and safeguard our quality of life, safety, health, and the environment. He recognized the diversity of our vast economy and the differences among sectors that call for a portfolio of standards strategies and concluded that ANSI and NIST must work together to identify and resolve conflicts at both the standards and policy levels; and must seek to forge a united front in arguing for the public and economic value of standards, exercising leadership in setting global standards.

Thomas Castino, President and CEO of Underwriters Laboratories, Inc., outlined the need for an effective national strategy that incorporates key aspects of the U.S. safety system into the emerging global system. Such a strategy would provide industry with greater freedom to innovate, reduce barriers to product acceptance, and get new and improved products to market sooner via universally accepted methods of evaluation. Requirements that make products more expensive, more difficult to manufacture, to export, or to install/use are undesirable. U.S. safety and research organizations must, therefore, participate actively in developing and harmonizing standards in the International Electrotechnical Commission (IEC), the International Organization for Standardization (ISO), and other international fora.

Henry Line, Divisional Vice President, Global Product Standards, AMP Incorporated, noted that the globalization of business, the rapid implementation of new technology, and the economic and technological convergence of markets are interlocking market forces that are significantly changing the dynamics of global competition. Standards, especially global standards, are now the predominant enabling catalyst facilitating the growing impact of all three. Companies that don't participate in the standards-setting process allow competitors to make their new product decisions for them. However, since industry standards are sectoral in nature, a single strategy that addresses the needs of all sectors cannot be conceived. Central control of the planning process would destroy the vibrancy of the current system, which works effectively for most industries despite its shortcomings. Nonetheless, changes to the U.S. approach are needed and should embrace several basic strategic principles, namely:

1. Industry standards must be market-driven.
2. The U.S. system, with ANSI at the vanguard, should continue to be voluntary, consensus-based, with due process, and led by the private sector.
3. A continued close working partnership between the private sector and government agencies is needed.
4. Development of industry standards should be approached on a sectoral basis.

5. Electronic information transfer is a cornerstone for strategy.

6. Small companies, state agencies, and consumers must be brought into the process.

7. There must be support for supplier's declaration of conformance; single CASCO (Committee on Conformity Assessment) symbol for product marking and labeling; mutual recognition and transparency on a global basis.

8. Re-engineer the process to achieve more timely and less costly development of standards with improved technical content.

9. Greater involvement of U.S. companies and their executives is needed. All stakeholders, including NIST, must be involved.

Charles Ludolph, Deputy Assistant Secretary for Europe, International Trade Administration, U.S. Department of Commerce, stated that the U.S. economy has changed substantially and that the United States is now only a part of global markets. The status of standards around the world is a paradox, however, due to the fragmentation of standards in a global market. Unnecessary national standards and requirements have proliferated and reduce potential economies of scale and global competitiveness. Market access opportunities are reduced, as are consumer safety and consumer protection. We need a coordinated, coherent, and harmonized approach to meet the needs of producers and consumers, including actions regarding the uneven influence of European standards organizations in international standards bodies, possible reforms of international standards organizations, as well as a review of U.S. standards developers' parochial interests. The business community should continue, and even expand, support for ANSI's initiative to develop national positions for the work in ISO and IEC, and should consider the competitive aspect of the standards positions that they promote. We have failed to move toward a metric system, with resultant disadvantages. Standards development organizations should reexamine the rationale for differences with other countries, especially regarding material and electrical standards.

R. David Pittle, Vice President and Technical Director, Consumers Union, and former Commissioner of the Consumer Product Safety Commission, argued that consumer participation in standards activities should be an integral part of a global strategy and should be funded to ensure consistency and credibility. He presented a "Top Ten" list of reasons to support this:

1. The National Technology Transfer and Advancement Act of 1996 requires Federal agency use of voluntary standards whenever possible, diminishing the role of government in protecting consumers. Without strong consumer participation, the value and credibility of standards will be weakened and will lessen the likelihood of adoption.

2. European countries fund consumer participation.

3. The ISO Consumer Policy Committee (COPOLCO) has proposed strong wording to encourage consumer participation, fund expenses, and even isolate national bodies that do not.

4. The European Association for the Coordination of Consumer Representation in Standardization (ANEC) has called for higher priority and more resources for consumer participation.

5. Consumer participation assures balance and fairness, a politically acceptable principle.

6. Since consumers are directly affected by the outcome, they have an inherent right to participate in the process.

7. Consumers can participate competently when issues are complex. They know the performance level they want, and can retain independent technical experts if funding has been provided.

8. There has been successful consumer participation in the Codex Alimentarius and its subsidiary bodies for several years.

9. Participation increases credibility at the national level and enhances chances for international acceptance of resulting standards.

10. Consumer participants do not want to be treated as second-class participants. An ANSI survey of 181 standards development organizations (SDOs) reveals that few offer any meaningful financial assistance to participating consumers, hence too few consumers participate.

Keith Termaat, Cross-Platform Closure Systems Manager, Ford Motor Company, stated that technology is ending the significance of geography through the rapid globalization of standards. The standards process is political and requires a partnership between government and the private sector in order to define national interests and present them to the rest of the world. Many factors, such as the increasing influence of CEN and CENELEC, the adoption of ISO/IEC standards by many nations, and the development of non-traditional (consortia) standards, all affect the external realities faced by the United States. Termaat proposed a "big tent approach" that includes everyone in the standards development process and creation of a cohesive national standards strategy. He cited three main priorities:

1. Reposition the United States relative to global standards players (so that ASTM, ASME, and other standards developers would be considered equivalent to DIN, AFNOR, and other foreign national bodies);

2. Create a U.S. standards issues agenda by consensus; and

3. Secure financing for a strong ANSI. He also proposed that the United States negotiate for CEN/CENELEC to represent the European Union, accompanied by withdrawal of the European national bodies (e.g., DIN, AFNOR, BSI).

James Thomas, President, ASTM, believes that the standards community can change to address global activities and that ANSI needs to lead a strong U.S. technical consensus process. He is concerned about the disadvantages that the United States faces in the international arena, including the increased number of EU members and their representation vis-à-vis the United States and the trend toward adoption of European standards. He emphasized the misconception that only ISO and IEC standards are international standards. Many U.S. standards bodies are open to all interested parties, both domestic and foreign, and many U.S. standards are used globally. The common desire is for one standard that everyone uses. Buyers and sellers should be able to determine which standards are to be used. A market-based system must be emphasized in the international arena. ASTM has established its goals for improving the quality of life, but cannot achieve them alone.

OPENING KEYNOTE ADDRESS

by Hon. Robert Mallett, Deputy Secretary of Commerce

The Deputy Secretary thanked NIST and ANSI for the opportunity to participate in the Summit and the chance to bring trade and standards policy issues to the agenda. He noted that these subjects rarely get the media attention that they deserve.

Mr. Mallett stressed that the time for action is now. Although discussion is good, developing a national strategy is even more important: "If all you do today is talk, you will have failed." The challenge for the audience is to develop an action agenda that recognizes the importance of standards in opening and closing markets. The U.S. standardization system is unique; in fact our consensus process is the envy of all. However, our resources are spread too thin, making it difficult to compete with more monolithic systems. Furthermore, many other national governments help more than we do. The government should participate as a stakeholder, not as a driver. Our approach is technically focused. In contrast, some governments have politically driven approaches.

Mallett noted that the present U.S. approach in international standards activities is too *ad hoc*. Unless we act, U.S. technology will not be embedded in future international standards. He highlighted the European investment in Latin America, where the Germans have invested more than $40 million to build a Latin American standards infrastructure along the lines of German technology. We are now confronted by the fact that the Europeans have adopted an effective standards strategy.

Mallett emphasized the goal of getting U.S.-built products tested to U.S. standards with the results accepted everywhere. Industry leaders should have more than a passing interest in the standards world, and the U.S. Government must work with ANSI to develop a national strategy that produces standards that are truly global and timely. Standards must respond effectively to both technical and market needs, and perhaps be freely available through the Internet. We might even want to pay people to use our standards to increase our market share.

In conclusion, Mallett said that DOC intends to be a catalyst to end this costly inertia and confusion. We will streamline procedures in laboratory accreditation and eliminate duplicate efforts. We must join with ANSI to strengthen our international position through coordinated viewpoints, and also improve technical assistance programs. Although the United States is the most prolific exporter in the world, we are not paying enough attention to the homelier issues of standards, laboratory accreditation, and the like. The devil is truly in the details, and unless we pay attention to them, U.S. products will be locked out of other markets. Through ANSI and with the government's help, we must all embrace this challenge with gusto.

ROUNDTABLE II
Getting the Best of U.S. Technology into Standards

Panel Moderator *Ray Kammer* said that the $8 trillion U.S. economy, the largest and most vibrant in the world, is fueled by constant technological innovation that gets incorporated into new products, many destined for export markets. To be competitive, manufacturers must make world-class products for sale in the United States and outside our borders. To be successful we need one standard governing a product. Global products require one governing set of international standards, and these standards must include elements of U.S. technology for our businesses to succeed. Many manufacturers have said that while they do not particularly seek an advantage in the writing of standards, they simply do not want to be disadvantaged: they want to compete on a level playing field.

George Arnold, Standards and Intellectual Property Director, Lucent Technologies, indicated that telecommunications equipment and services create more than $620 billion/year in revenues, $320 billion/year domestically. However, telecommunications standards are affected by changes in the telecommunications and information technology business environment, such as trends toward convergence, deregulation and mergers. Even with attempts to decrease technical barriers to trade, new policies can effectively increase those barriers. To ensure the best global telecommunications standards reflecting the contributions of U.S. technology, U.S. stakeholders need to: 1. Participate actively in pertinent standards organizations. 2. Learn from counterparts and share best practices around the world; the European Telecommunications Standards Institute (ETSI), for example, accelerates the development of global standards by encouraging other countries to participate in relevant telecommunications standards activities. ETSI has standards partnerships with other countries to develop 3G wireless specifications. ANSI has adopted a similar approach. 3. Facilitate freely-available electronic access to U.S. standards information. Telecommunications equipment sales are reinforced by the wide dissemination of telecommunications standards. While it is understood that ANSI and SDOs must derive revenues to operate, alternative funding models are needed that do not rely on the sale of standards documents.

Helen Delaney, former Standards Attaché and First Secretary, U.S. Mission to the European Union, recognized the many factors which the United States and the European Union have in common: we are both market-driven democracies and state federations; our laws have such common objectives as the protection of health and the environment; and we rely primarily on voluntary consensus standards development. However, technical barriers to trade between the two largest trading partners in the world have arisen in some sectors because:

1. The European standards system is closed. Although European companies have access to the U.S. standards development process, whether or not they have U.S. subsidiaries, U.S. manufacturers must be physically located in the EU or demonstrate that they provide European jobs or income prior to participating in the EU's standards development process. This effectively excludes many U.S. companies.

2. Those manufacturers using European standards can, in most cases, mark their products with the CE Mark and directly enter the European market. However, because foreign manufacturers cannot declare conformance to alternative standards without consequences, and because European law confers upon European Harmonized Standards the presumption of conformity, the European system is not truly voluntary. The United States and EU should jointly examine whether the sole -use of EU standards can guarantee a specified level of safety. One alternative to the current approach would be to recognize the equivalence of standards. U.S. manufacturers could then satisfy EU essential requirements through conformance to U.S. voluntary consensus standards.

Richard Feigel, Vice President, Hartford Steam Boiler Inspection and Insurance Company and Senior Vice President, American Society of Mechanical Engineers, stated that any U.S. standards strategy should be a business-driven, sectoral approach that is evenly balanced between trade issues and technical excellence. It must be a cooperative effort among stakeholders, namely industry, government, and SDOs. U.S. industry should:

1. Incorporate standards management into strategic business planning.
2. Adopt a sectoral approach to standards development.
3. Ensure that standards reflect actual business practices. One area that should be improved is the deficiency within the European Committee for Standardization (CEN) and the International Organization for Standardization (ISO) of the definition of manufacturer's responsibility. This often results in arbitrary divisions between responsible parties. At the same time, the U.S. Government should:

1. Encourage the use of U.S.-based standards by educating others about U.S. technology.
2. Reduce tension between federal regulators and state and local level agencies.

U.S. Standards Developers should:

1. Ensure that their processes are open, transparent, and provide for due process.
2. Promote international participation in standards development activities and ensure that it is carried out on an equal basis.
3. Streamline administrative procedures to reduce time to market.
4. Be aware of and embrace new technologies, such as web-based systems.
5. Ensure that all interested stakeholders are consulted and informed.
6. Use cost-benefit criteria when revising an existing standard or creating a new standard.

Ronald Reimer, Corporate Manager, Industry Standards and Product Relations, Rockwell Automation, Allen-Bradley Company; Chairman, U.S. National Committee to the International Electrotechnical Commission, stated that the ability of U.S. technology to penetrate markets is affected when countries form regional trading blocks. If a given standard later becomes regulation, trading is constrained by that standard's technology. This should be prevented by adopting only one international electrotechnical standard and one test that can be performed once and will be accepted everywhere, with only one certification mark. The United States will need to act to ensure that the best U.S. technology is incorporated into IEC standards. The IEC should:

1. Use available *de facto* and *de jure* standards until the IEC becomes the predominant global SDO.
2. Modify its administrative procedures and the languages it allows to be used.
3. Ensure that voting rights are not linked to dues categories, enabling all countries to vote, not just those countries that can afford it.
4. Continue its re-engineering process.

ANSI should:

1. Influence its counterparts in other countries to vote and participate in the IEC.
2. Ensure that it is recognized as the U.S. standards umbrella organization.

The U.S. government should:

1. Be more active in ensuring U.S. presence in the IEC.
2. Formally recognize ANSI as the U.S. standards umbrella organization.
3. Recognize the U.S. National Committee (USNC) as the official interface with the IEC and, accordingly, pay IEC dues and fund the USNC secretarial staff.

Gerald Ritterbusch, Director, Standards and Regulations, Caterpillar, Inc., described the construction machinery industry's activities in international standards development to ensure that the best U.S. technology gets into global standards. Capitalizing on expertise, organizational skills, and the efforts an industry or group is willing to make, the U.S. members of the relevant Technical Advisory Group have recognized that before taking on a new work item, the necessary resources must be in place to complete the work and all interested parties must have a chance to participate. The goal of achieving global standards that incorporate U.S. technology is realistic. Other countries may take the lead in some areas where they are more technologically advanced or better organized. The United States will take the lead where we are technologically strong. U.S. standards must be closely aligned with international standards to achieve the maximum benefit for trade and commerce, having tried to ensure that the best of U.S. technology has in effect been incorporated into those international standards. All interested parties should share their best practices with their international counterparts.

Michael Schagrin, Standards Program Manager, Intelligent Transportation Systems Joint Program Office, U.S. Department of Transportation (DoT), described the Intelligent Transportation Systems (ITS) and how transportation programs work to keep pace with the growing population. The many components of the ITS include telecommunication and computer devices to monitor traffic conditions, weather, construction, accidents, etc. The ITS also covers parking and emergency management and vehicle registration. Subsystems, such as traffic signals, tollbooths, and roadside cameras, are also being developed. Various U.S.-based standards- developing organizations are now drafting between 70 and 100 standards to cover these activities, with DoT supplying funding. The Department is working on North American standards through ISO Technical Committees: 22, Road vehicles; 211, Geographic information/Geomatics; and 202, Microbeam analysis. European support and funding for this effort was briefly discussed.

Robert Wurzel, Vice President, Regulatory and Quality Affairs, Becton Dickinson and Co., spoke of the need for standards to reflect the best global technology in the medical device industry, a pervasively regulated industry focused on the safety and efficacy of products, which is of primary concern to users and to patients. Approximately 5,000 different types of medical devices encompass a spectrum of technologies from microelectronics to microbiology. A major factor impacting standards development for medical devices is the broad spectrum of products and technologies and the diversity of the user population. Since the Food and Drug Administration (FDA) is the regulatory agency for medical devices, it is important to work with the FDA to ensure availability of scientific expertise related to the ever-changing technology. Participating in standards development with the FDA is key to "fast-track" regulatory approval for marketing new products and, it is hoped, will also facilitate rapid global approval. European Directives on medical devices and their partial reliance on standards are also significant factors in the growing importance and value of standards in the regulatory process, a process watched carefully by nations around the world. Since the FDA continues to have important influence worldwide, industry needs to partner with the FDA to develop an effective and flexible standards process.

LUNCHEON GUEST SPEAKER

Evangelos Vardakas, Director, Directorate B, Legislation and Standardization, Telematics Networks, Directorate General (DG)-III: Industrial Affairs, European Commission

Mr. Vardakas noted that the European Union and the United States differ in their approach to standardization. As regulators, European authorities widely use standards to support technical rules and to support their policy objectives. Because Europe has had a tradition of strong national standards bodies with divergent standards, the EU has used standards as a tool to unify the European market.

In this approach, the European Commission has entrusted industry and other interested parties with the task of drawing up standards to give presumption of conformity with legislation. The standards bodies have taken the lead in providing technical solutions to regulatory requirements. Through a combination of both regulation and deregulation, Europe has politically and financially supported the development of its standardization system. Over time, the EU has drawn back from its prominent funding position as the system fell into place. The current level of official support is now estimated to be less then 1.5 percent of the total resources invested in European standardization; this may usefully be compared with the size of the European public sector, which comprises 10 percent of the European economy. The remainder of the cost of European standardization is borne by industry and other parties.

Contrary to common U.S. perception, only a minority of European standards are linked to legislation. Under some laws, standards provide a privileged route for demonstrating compliance with legal requirements while themselves remaining voluntary. In public procurement, they form a mandatory basis for public tender documents where they exist. National standards bodies in Europe now have a mutual obligation to accept European standards and to withdraw conflicting national standards. European unification on a common standard is not a means for keeping foreign competition out, but merely to create unified commerce within the Community. Importers face only one set of technical specifications and one set of marking requirements for access to the whole European market. The common regulatory regime makes it very attractive for countries interested in exporting to the EU to consider aligning their own standards to the European ones.

The European Community's approach -- and that of most of the rest of the world – is one of consensus-building on a single standard recognized at European (or analogous) level. The American standards system appears to be based on acceptance of competing standards with no general consensus on a single standard. The EU does not have a mechanism to promote or impose their standards on the rest of the world. Instead, Vardakas challenged the United States to work with the Europeans to address differences.

ROUNDTABLE III
Funding the Process

Panel Moderator *Robert Hermann*, Senior Partner, Connecticut Technology Associates and Chairman of the ANSI Board, pointed out that standards are increasingly important to the global economy and to the United States' economy, competitive position, and quality of life. The United States benefits by playing an increasing role in standards development at all levels. The U.S. role is not now adequate to meet our objectives, which will only be possible through a joint government/private sector cooperative effort. A U.S. strategy in this area is needed, and we need at the same time to identify the sources for the funds that are needed to implement that strategy.

Reuben Autery, President of the Gas Appliance Manufacturer's Association, Vice Chairman of the ANSI Board, and Chairman of the ANSI Finance Committee, spoke to the financial difficulties faced by ANSI and emphasized that no one can pay bills with promises. ANSI members must decide what ANSI should accomplish, then ANSI should bill members accordingly to meet stated goals. ANSI members still lack a clear vision of what ANSI's role should be in the global standards process.

Arthur Cote, Senior Vice President and Chief Engineer, Operations, National Fire Protection Association, referred to an 80-to-20 rule of standards development, which basically states that profits from the sale of 20 percent of the standards produced provides 80 percent of the funds available for all standards development. The ratio may even be closer to 95-to-5 since not all standards activity is profitable. NFPA derives its income primarily from the sale of its codes and standards, then has to fund all administrative costs associated with standards development. NFPA is self-funded, and its stakeholders don't want their time wasted, but they want NFPA to develop standards efficiently. Cote pointed out that the National Standards Strategy must recognize the effectiveness of the present U.S. standards system and not sacrifice any of our U.S. standards development organizations in the process of developing and implementing the strategy.

Herbert Kaufman, Director of Standards Development and Research Group, Society of Automotive Engineers (SAE), stated that standards must be considered as a long term investment and must be of value to the customer. They must contain the right (global) requirements, be produced/available at the right time and at the right price -- a price based on the system's cost, not on the cost of the documents. SAE's standards development costs are borne mostly by large companies. Government support is usually short-term and sporadic, and funds from the sale of publications are shrinking. Companies bear the brunt of funding the process. Since the largest companies benefit most, they should pay the largest percentage of the cost. Government funding should cover the benefits obtained by smaller companies and other public sector groups. Some questions still remain to be resolved with respect to the right balance between company and government support. Support should be proportional to the amount of influence that a party has on the system. SAE supports the concept of NIST's funding for international standards work.

Malcolm O'Hagan, President, National Electrical Manufacturers Association (NEMA), noted that NEMA has started to implement a global strategy regarding standards development. Globalization

and technological developments are driving changes in standards development. The private sector and government must work together in this area. He recommended that ANSI should move to Washington, D.C.; that the work of NIST Standards Attachés in U.S. embassies should be broadened, as should the work of the U.S. Foreign Commercial Service officers; the U.S. Government should help to pay ISO/IEC dues; the U. S. Trade Representative, ANSI, and DOC should promote U.S. standards and practices internationally, especially in key markets; and sectoral standards strategies, which are likely to be the most effective, should be developed.

Oliver Smoot, Executive Vice President, Information Technology Industry Council (ITI) and Vice Chairman of the ANSI Board, reported that the IT sector has transformed itself and relies on global standards rather than developing national standards. The standards consortia method for standards development is heavily used in the IT sector. ITI believes that standards development activities should be based on market relevance, with the involved sector paying the costs associated with standards development for its sector; and that the decisions regarding the sale of standards should be left to the sector. A one-size-fits-all view across industry lines hinders the United States at the international level. Fundamental copyright law concepts need to be applied to standards publishing, and issues of sharing infrastructure costs must be resolved. The international system should be sector-specific in terms of paying for standards development, with infrastructure costs paid by national bodies. Government should support information dissemination, trade promotion, increased efforts of standards attaches, etc. ANSI's dues schedules should be consolidated into one schedule. Long-term commitment is necessary if there is any government funding: short-term, administration-dependent funding will injure the standards system.

Raymond Kammer, Director, NIST, declared that ANSI and NIST are committed to helping U.S. companies achieve better access to the international standards system. National interest in the outcome of international standards development by itself justifies some government funding of the process. Government funding may help to facilitate access to international standards development. DOC has given strong support to the idea of such funding, and NIST and DOC are currently talking to the Office of Management and Budget; its support appears likely. The next step will be to appeal to Congress via the budget process. The House Science Committee has legislated on standards-related issues three times in the last few years, so they are obviously aware of the importance of the issue. New legislation may help to institutionalize government funding for standards development. The dollar amount that we are proposing is around $4 million, which would be provided to ANSI in the form of a grant. Grants are easier to manage, result in less red tape, and appear to be the most appropriate way to provide funding.

CLOSING KEYNOTE ADDRESS

by Dana Mead, Chairman and CEO, Tenneco, and World Standards Day Chairman

Mr. Mead called for action by all U.S. stakeholders to create a national standards strategy aiming for the goal of one standard, one test, and worldwide acceptance of a supplier's declaration of conformity to that standard.

Mead noted that some governments may not choose to recognize U.S. standards even if similar to their own. Among many products, Tenneco makes catalytic converters for the Ford Escort, and even within the United States, vehicle emission requirements vary widely. Specifications are exacting, but are often interpreted or applied differently. The cost of complying with different specifications among many countries often equals the cost of an entirely new product. Why should standards vary from country to country? Harmonizing national and international standards will increase trade and productivity without decreasing the quality or value of the end-product.

By coordinating a U.S. national standards strategy, we will build the superstructure to facilitate standards and trade worldwide. As the global system shakes out, people will look for more strategic partners, and the challenges of divergent standards will be even more difficult. The EU is the world's single largest importer/exporter. The United States and the European Union together comprise 55 percent of the world's economy. Our best defense is a united front. Our national standards strategy must have this as an objective: one standard, one test, and the supplier's declaration of conformity accepted worldwide with market surveillance.

CONFERENCE SUMMARY AND REMARKS
by Sergio Mazza, ANSI, and Ray Kammer, Director, NIST

Mr. *Mazza* stated that whether we like it or not, the market is becoming global. Companies that ignore this fact do so at their own peril. We must therefore make thoughtful choices about harmonizing our standards. We need a process in place to develop a national standards strategy that will define our options and potential actions, protecting the gains that the United States has already made in public health, safety and the environment. Our safety standards differ from those of other nations, yet in many respects these standards are comparable, so we must find ways to harmonize and establish equivalency, perhaps with a transition phase.

Mazza stressed that the clearest message that came across today was that standardization is not the same in all sectors. Whatever our standards strategy, we will have to allow for diverse approaches in different sectors. Accommodating diversity requires assessing how and to what extent consumer interests are included in the process. As for structure, we will look at the way that ISO and IEC work. We are interested in helping these organizations work better, not just for us, but for the new global market. This will entail addressing financial issues related to ISO and IEC.

We also need to consider improvements in government and private sector cooperation and communication, not only in the United States, but around the world. People from a foreign national standards body sometimes say one thing, then we learn from the U.S. Trade Representative that the government representative from that country said something quite different at a WTO meeting. It is not enough to talk to each other more effectively; we have to help the rest of the world understand that we all need to cooperate.

Mazza concluded that, on the issue of funding, it can't be said loudly enough: There is no such thing as a free lunch. We need to ensure that those who benefit from standardization pay for it. Clearly, each sector has to find its own way, its own approach to fund its activity, but everybody must pay. This includes some of the shared costs, meaning the infrastructures of ANSI, ISO, and IEC. As we look at the structural issues, we really must resolve the financial ones as well.

Mr. *Kammer* reported hearing a number of things during the day in the realm of the possible, probably worthy of further attention and, perhaps, ultimately an element of the strategy. In particular, there was the repeated thought that we should reach out to other countries facing similar circumstances regarding their relationships with ISO, IEC, and ITU. Another repeated thought was the need to relieve the financial pressure on ANSI so that we might improve our international representation.

Kammer believes that the notion of re-engineering – of joining into a dialogue with ISO, IEC, and ITU to see what might be achieved – is very powerful. Issues to be discussed with those bodies might include intellectual property; revenue; the unique preference for CEN/CENELEC standards currently shown by ISO and IEC; the issue of presumption of conformity; and the voting structure itself. We need to hear further about these topics from other people.

Kammer concluded by noting that conformity assessment is another important issue that remains to be treated, perhaps in a manner similar to the way standardization was discussed at this session.

TOWARD A NATIONAL STANDARDS STRATEGY TO MEET GLOBAL NEEDS

AGENDA
WEDNESDAY, SEPTEMBER 23

8:30 a.m. Registration and Refreshments

9 a.m. Welcome and Introduction
Sergio Mazza, ANSI, President and CEO
Raymond Kammer, NIST, Director

9:15 a.m. Roundtable Discussion
Identifying U.S. Needs for Domestic, Regional, and International Standardization - Sergio Mazza - Discussion Coordinator (with views from spokespersons from government, industry, standards developing organizations (SDOs) and users). Participants in the standards process currently manage a mix of global, regional and domestic activities, depending on the product or service in question. This panel will discuss needs from the perspectives of trade, existing infrastructure, regulatory and legislative requirements, and quality of life.

Speakers:
G. Thomas Castino, President and CEO, Underwriters Laboratory
Henry Line, Divisional Vice President, Global Product Standards , AMP, Inc.; Vice Chairman of ANSI Board
Charles Ludolph - Deputy Assistant Secretary for Europe, International Trade Administration, U.S. Department of Commerce
R. David Pittle - Vice President, Technical Director, Consumers Union
Keith Termaat, Manager, Cross Platform Closures, Ford Motor Company; Chairman of ANSI Company Member Council Executive Committee
James Thomas, President, ASTM

Q&A from floor

10:45 a.m. Keynote Address
Robert L. Mallett, Deputy Secretary of Commerce

11:15 a.m. Break

11:45 a.m. Roundtable Discussion

Getting the Best of U.S. Technology into Standards - Raymond Kammer - Discussion Coordinator - Ensuring that standards reflect the state of technology and that global standards contain U.S. contributions to the process is vital. This panel will explore ways to enable our domestic and international standards activities and participation to achieve this.

Speakers:

George Arnold, Standards and Intellectual Property Director, Lucent Technologies

Helen Delaney, Standards Attache and First Secretary, U.S. Mission to the European Union

Gene Feigel, Assistant Vice President, Engineering, The Hartford Steam Boiler Inspection and Insurance Company; President, the American Society Mechanical Engineers, Council on Codes and Standards

Ronald Reimer, Corporate Manager, Industry Standards and Product Relations, Rockwell Automation, Allen-Bradley Company; United States National Committee to the International Electrotechnical Commission

Gerald Ritterbusch, Director, Standards and Regulations, Caterpillar

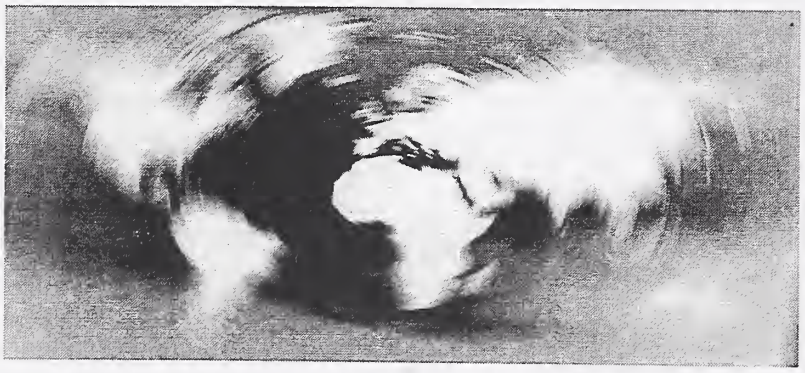
Michael Schagrin, Standards Program Manager, Intelligent Transportation Systems Joint Program Office, U.S. Department of Transportation

Robert Wurzel, Corporate Vice President, Regulatory and Quality Affairs, Becton Dickinson and Company

Q&A from floor

1:15 p.m. Lunch

Special Guest Speaker - Evangelos Vardakas, Director, European Commission, Directorate General III - Industry



2:30 p.m. Roundtable Discussion

Funding the Process - Robert Hermann, Connecticut Technology Associates; Chairman, ANSI Board - Discussion Coordinator - We must find constructive ways to ensure that adequate resources are available to fund the process of standards development and dissemination. Since

different sectors often require different solutions, the panel will explore needs and consider a mix of solutions that can coexist in a world where paper distribution is being complemented, if not replaced, by electronic means. Institutions must continue to add value to the work of participants. The panel will consider the current situation and explore what, if any, changes may be needed to meet tomorrow's likely needs.

Speakers:
C. Reuben Autery, President, Gas Appliance Manufacturer's Association; Vice Chairman, ANSI Board and Chairman, ANSI Finance Committee
Arthur Cote, Senior V.P. and Chief Engineer, Operations, National Fire Protection Association
Herbert Kaufman, Director of Standards Development and Research Group, Society of Automotive Engineers
Malcolm O'Hagan, President, National Electrical Manufacturers Association
Oliver Smoot, Executive Vice President, Information Technology Industry Council (ITI); Vice Chairman, ANSI Board
Raymond Kammer, Director, NIST

Q&A from floor

3:45 p.m. Break

4:15 p.m. Wrap Up - Raymond Kammer and Sergio Mazza

4:30 p.m. 1998 World Standards Day Chair Presentation
Robert Hermann making the introduction for
Dana Mead, Chairman and CEO, Tenneco and 1998 World Standards Day Chair

5:15 p.m. Adjourn

5:30 p.m. Exhibits
Sheraton City Center
1143 New Hampshire Avenue, NW
Washington, D.C.

Welcoming Remarks by Raymond Kammer

Good Morning. The first session will be chaired by Sergio Mazza. It will be focused on identifying U.S. needs for domestic, regional and, international standardization. We will then have a keynote speech by my boss, Robert Mallett, who is the Deputy Secretary of Commerce. After a break, I will then chair a session on Getting the Best of U.S. Technology into Standards. At lunch, our speaker will be Evangelos Vardakas, who is the Director of the European Commission Directorate General DG-III for Industry. Next, Bob Hermann will chair a session on Funding the Process, which should be a very lively discussion. Then after a wrap-up by Sergio and me, Dana Mead, the Chairman and CEO of Tenneco, who's also the 1998 World Standards Day Chairman, will speak to us. So, let me introduce Sergio Mazza, who is the President and Chief Executive Officer of ANSI, the American National Standards Institute. He was named President and CEO of ANSI on November 29, 1993. Of course, ANSI is the sole U.S. representative to the ISO and the IEC. Before accepting the position as ANSI President, Sergio was active as a software entrepreneur, most recently as President of DS Group Incorporated. He held a variety of responsible positions with Memorex and Memorex Computer Supplies and Memorex Copal Corporation in Japan. Sergio holds a Bachelor of Science Degree in Economics, with a dual major in Finance and Multinational Enterprises from the Wharton School at the University of Pennsylvania, and he speaks four languages fluently while I speak only one poorly, so I am very impressed. With that, let me introduce Sergio Mazza.

Welcome by Sergio Mazza and Introduction of First Panel

Thank You and Good Morning. Welcome. I'd like to begin by thanking Ray. It was actually his idea to put this Standards Summit together. He offered it up at an ANSI board meeting one evening. Since then we have taken the ball together and run with it. I'd like to thank Belinda Collins and her staff who really have done most of the work despite the fact that it says it's a NIST/ANSI Conference. NIST has really done the vast majority of all the work here. I would really like to emphasize that this is the beginning of a process and not a conclusion. And as we progress through this process, I think that we really must keep our ultimate goal in mind. That is, to facilitate trade of goods and services, domestically and globally; to support the competitiveness of U.S. business; and to safeguard our quality of life. Our safety, our health, and our environment - that's really what standards are all about. Ours is a huge and diverse economy. We must respond to a diversity of business sectors. The outcome of this process should be a set of first principles that define us as a standards community and a portfolio of standards strategies. Really, what we need is a tool kit of different wrenches to fit different nuts, no pun intended. The ANSI Federation needs to identify and resolve conflict within that portfolio. Not just at the standards level, but at the policy level, particularly when dealing with issues of basic principles and issues related to trade efforts. The ANSI Federation must also identify the private sector's broad policy goals and help to communicate those goals clearly to our government and to the rest of the world. Together, ANSI and NIST have to clearly identify our Nation's standards policy goals and help implement them domestically and around the world. Again, ANSI and NIST together must also support individual business sectors to implement their particular sector strategies. Finally, and most importantly, we, the standards community, must seek to forge and

particular sector strategies. Finally, and most importantly, we, the standards community, must seek to forge and present a strong, determined, and united front, arguing for the public and economic value of standards and for a leading voice in setting those standards globally.

To begin the process, I will now move to introduce the first panel. Our first discussion is entitled "Identifying U.S. Needs for Domestic, Regional, and International Standardization." The participants in the standards process currently manage a mix of global, regional, and domestic activities depending on the product or service in question. What we need to do is determine the appropriate mechanisms and criteria for determining the needs for standards and the best mechanisms for meeting those needs. This panel will discuss needs from the perspective of trade, existing infrastructure, regulatory and legislative requirements, and quality of life. The panel consists of Thomas Castino, the President and CEO of Underwriters Laboratories; Henry Line, Divisional Vice-President, Global Product Standards of AMP Incorporated and the Vice-Chairman of the ANSI Board; Charles Ludolph, Deputy Assistant Secretary for Europe at the International Trade Administration of the U.S. Department of Commerce; David Pittle, Vice President and Technical Director of Consumers Union; Keith Termaat, Manager of Cross Platform Closures at the Ford Motor Company and Chairman of the ANSI Company Member Council; and Jim Thomas, President of ASTM.

TOWARDS A NATIONAL STANDARDS STRATEGY TO MEET GLOBAL NEEDS

Presented by:
Tom Castino
President and CEO
Underwriters Laboratories Inc

THE CHALLENGE: Strategize Nationally for a Global Future

As we discuss how to create a more effective national standards strategy – one that will meet the needs of both U.S. industry and government, and is functionally global – it is incumbent upon us to remember where we are coming from and where we are going.

Each of us knows the U.S. Safety System is one of the most effective in the world. Codes and standards -- including NFPA, ASTM, ASME, ISA, ANSI, UL, IEC, and ISO Standards, to identify a few -- have contributed mightily to this fact. Authorities and end-users rely on the common requirements contained in a standard for risk reduction. However, the U.S. safety system is designed to primarily serve U.S. interests. When the U.S. played a dominant role in the export market, manufacturers all over the globe accommodated the U.S. system and, to a degree, its standards. But, we all know, times have changed.

The challenge we face is how to incorporate the most important aspects of the U.S. safety system into the more encompassing global system that:

1) serves the needs of consumers and end-users in many different countries;
2) does not impede trade; and
3) maintains and builds upon the gains we all have worked for so long to attain.

As each of us, in our way, take on this challenge, UL fully expects to be an ever more active participant in the on-going project of harmonizing and developing standards that promise high applicability.

According to International Standards Organization (ISO) Guide 2, (1996 edition), the purposes of standards are:

1) to protect health, safety, the environment and property through risk reduction; and
2) to facilitate economic transactions by having common requirements.

These guiding purposes correspond closely to UL's primary interests in regard to the development of a national standards strategy. First and foremost, UL's commitment to developing standards that are based on safety needs and the related code requirements is basic to our core ideology and mission. Secondly, UL writes standards that are going to be used – in regular, active, and continuing production processes, in local, state and national codes, and in a broad range of installation and procurement documents.

It is important, at this point, to reflect on the fact that properly developed product and system requirements are good for all segments of a community, and most importantly, they are good for safety in general. Standards based on satisfying safety needs permit regulators and certifiers to focus on the primary intent of codes and standards – i.e., providing a safer environment in which to live and work.

Standards based on safety needs can also have beneficial, although "unintended," consequences by:

- Providing industry with greater freedom for innovation, with fewer barriers to acceptance;
- Giving consumers new and improved products that get to market sooner; and
- Meeting a key global community need: a universally accepted method of evaluation.

We all must write standards that we expect are going to be used to a significant degree in the industry(s), country(s) and community(s) having the primary needs. It is neither cost effective, nor in the best interests of a national standards strategy to develop requirements that make it more expensive, difficult or impossible for a product to be manufactured, exported or used, i.e., harmonization cannot and must not become an end unto itself.

While ***use*** is a broad term, it reminds us that standards are developed within the context of existing systems, structures and capacities – for example, the development of a standard for home appliances that is largely based on D.C. current where only A.C. is available would not meet any currently conceivable criteria for use in those locations. Within the context of existing systems, structures and capacities, standards must take into account contemporary considerations such as: market access, regulatory requirements, infrastructure, financial systems, and health, environment and quality of life factors.

In the present environment, market access gets the most attention. Developing and harmonizing standards that facilitate global trade is being called for by manufacturers all over the world. Suppliers, purchasers and regulators, whether public or private, must agree on certain basic parameters to conduct transactions across different economies. Standards embody just such parameters. Standards can facilitate economic transactions between parties in different countries and support and actively drive the distribution of products that can be used safely into global markets. Thus, the greatest economic benefit from standards is realized when they embody requirements that facilitate the greatest number of transactions.

Financial considerations are related to market access and trade. Compatible or harmonized standards enable a manufacturer to realize efficiencies by developing products that meet requirements in more than one country or region of the world.

In addition to writing product safety standards, UL develops adjunct standards that address larger issues such as infrastructure and quality of life. These adjunct standards focus on operational or system needs, construction, assembly, and related factors and can be developed as new needs arise.

The relationship between developing standards for safety and standards for use makes the challenge of harmonizing standards exciting, and potentially very rewarding. With each success, not only will products be safer to use, but they will be available for use in any country or region of the world.

The Harmonization Process: neither a panacea nor an impossibility

To protect health, safety, the environment and property through risk reduction, and to facilitate economic transactions, UL has committed to being an active force in the U.S. transition to an increasing number of worldwide harmonized standards. In an environment where manufacturers are exporting products all around the world, it is in everyone's best interest to adopt worldwide harmonized standards. In general, there is a movement by industry to develop, manufacture and sell products globally without developing separate models for different countries or regions of the world. Industry tells us that it wants consistent and compatible standards. And, those of us in the safety community want to be sure that products in the marketplace are safer to use.

UL has begun to lay the groundwork to meet the goal of developing standards that can be applied domestically, regionally and internationally by taking a number of steps and putting forth a significant investment of monetary and human resources. To balance needs of manufacturers, authorities, conformity assessment bodies, consumers, and government, in these identified and prioritized standards harmonization initiatives, UL participates on more than 550 standards committees in the U.S. and over 120 international standards committees. UL also works with industry, advisory councils, policy groups and ad hoc forums in assessing the need for and desirability of harmonization. Recently, a dedicated, full time staff group was formed to identify and prioritize key standards for harmonization. In addition, an infrastructure group was established to enhance and ensure the exchange of information between the developers of both U.S. national and international standards. UL's Industry Advisory Conferences and the U.S. Technical Advisory Groups of the U.S. National Committee will be integral participants in these harmonization initiatives.

UL's goal is clear -- to ensure that these standards are effectively harmonized, in an appropriately controlled fashion, based upon need, capability and user demands. This includes harmonizing existing documents by eliminating or minimizing deviations and developing new documents. In this later instance, it can be more cost effective, in certain cases, to devote resources to developing internationally harmonized standards, rather than developing strictly domestic standards that will ultimately need modification.

Requirements must reflect a level of safety that addresses the concerns of all involved countries. When working in the international standards forum, it is imperative that particular and appropriate safety levels be achieved. The most direct method to accomplish this is for North American manufacturers, industry associations and UL to be involved in developing international standards together, in a team-based environment. Of course, we all know that this is easier said than done. For example, many standards are just not compatible. However, let us not underrate the progress that has been made over the past eight to ten years. More internationally used standards are compatible today than at any previous time.

UL's stated policy is to facilitate and encourage the harmonization of UL Standards (80% of which are already ANSI Standards) with identified and prioritized international standards such as those published by the ISO and IEC. For existing UL and ISO or IEC Standards, a general product category alignment of the scopes is undertaken. It is UL's preference to harmonize the UL Standard with the ISO or IEC Standard (or vice versa) with the smallest possible number of national differences.

Differences in requirements between UL Standards and ISO or IEC standards may be based on a variety of factors such as history, climate, culture, and levels of technical and economic development. Furthermore, these differences in requirements are not necessarily due to varying levels of safety, but rather to differing approaches toward achieving a reasonable safety level. UL believes it is important that the results of tests to both North American and international standards correspond closely to a comparable regime of safety requirements. Where research and/or field performance data demonstrate technical equivalency, international requirements can be considered for adoption. Where such equivalency cannot be established, local, national and/or regional requirements will most likely prevail.

National differences can be avoided, reduced or eliminated by introducing technically and experience-based national basic safety requirements into the currently applicable ISO or IEC Standard, or by negotiating alternative or harmonized "safety equivalent" evaluation criteria which are not likely to become barriers to trade. While national differences may be inevitable in some cases, these differences should be justified by fully documented national legislation, legal precedents, technical prerequisites and installation codes or practices.

When no applicable ISO or IEC standard exists it is preferable to have an existing UL Standard(s) adopted as an international standard(s) without national differences, if the requirements fully address globally applicable levels of safety.

When no applicable UL Standard exists it is preferable to adopt an existing international standard(s) without national differences, if the requirements fully address nationally or regionally applicable levels of safety.

When no applicable national, regional or international standard exists UL will seize the opportunity to work with ISO or IEC, as well as advise participants from the involved nations, in the development of new internationally-accepted standards.

The multi-tiered approach outlined in this commentary is intended to facilitate the harmonization of existing standards, while laying a solid foundation on which a truly global safety system can evolve. It represents a baseline for developing codes and product standards that address the safety, quality and environmental impact problems we face today, and the compliance solutions of tomorrow.

Conclusion: we must join together

Because of the relatively good U.S. safety record, given the exposures, and the role that the organizations referenced in this commentary have played in its evolution, UL believes it is

vitally important for U.S. safety and research organizations to actively participate in and/or guide standards harmonization activities in IEC, ISO, and other international forums. We must take the lead in helping to shape a new global safety system. Given UL's collective expertise and experience, and position of acceptance in the U.S. and elsewhere, we are committed to a process by which manufacturers can get qualified products into the global marketplace. Accordingly, it is incumbent upon all of us here today to join together at this pivotal point in time so that the U.S. can declare in a clear, understandable and unified voice that the effort toward developing a globally-responsive national standards strategy is not only underway – it will be a reality prior to the next millennium!

Towards a
National Standards Strategy
to Meet Global Needs

Presented by:
Tom Castino
President and CEO
Underwriters Laboratories Inc.

The Challenge:

Strategize Nationally for a
Global Future

Incorporate aspects of U.S. Safety System into global system:

- serve consumer and end-user needs in different countries
- do not impede trade
- maintain and build on gains

Standards:

- protect health, safety, environment and property through risk reduction
- facilitate transactions with common requirements

Underwriters Laboratories Inc.

- develops standards based on safety
- writes standards to be used

Beneficial "unintended" consequences:

- provide industry with greater freedom for innovation
- give consumers new and improved products
- facilitate a universally accepted method of evaluation

Standards are

developed within

the context of

existing systems,

structures and capacities

Economic benefit
from standards is
realized through the
embodiment of
requirements that
facilitate the greatest
number of transactions

With each success…

products will be safer
to use…

and they will be
available for use

The Harmonization Process:

neither a panacea
nor an impossibility

Underwriters Laboratories:

- committed to being an active force
- participates on U. S. and international standards committees
- created dedicated staff groups
- facilitates exchange of international standards information

UL's goal...

ensure that standards are harmonized based upon need, capability and user demands

Requirements
that reflect
safety
concerns
developed
through a
team-based
approach

UL's policy:

facilitate and encourage the
harmonization of
UL Standards
with identified and prioritized
international standards

National differences can be avoided,
reduced or eliminated

When no applicable ISO or IEC
Standard exists...

adopt an existing UL Standard
as an international standard
without national differences

When no applicable UL Standard exists...

adopt an existing international standard without national differences

When no applicable national, regional or international standard exists...

work together to develop new internationally accepted standards

We must join together...

Declare that developing
a globally responsive
national standards strategy
is underway...

Make it a reality
by the next millennium!

A NATIONAL STANDARDS STRATEGY FOR THE GLOBAL FUTURE

Introduction

The purpose of standards according to International Standards Organization (ISO) Guide 2, 1996 edition is to protect health, safety, the environment and property through risk reduction and facilitate economic transactions by having common requirements contained in a standard that is relied on by authorities and the marketplace in multiple world economies.

Risk reduction in the use of products and systems must continue to be the result of the application of standards.

Underwriters Laboratories Inc. (UL) relies on the global industries serviced by UL's programs to provide justification and support for the harmonization of existing UL Standards (80% of which are American National Standards) with IEC Standards. Generally, UL takes the lead in assessing the need for and desirability of harmonization based on industry information regarding target markets. Thus, this practice requires a significant investment of UL resources to participate in many IEC Standards Committees. UL takes care to balance the known needs of manufacturers, authorities, conformity assessment bodies, consumers, government, insurance and related interests in all standards harmonization initiatives.

UL has been involved in the activities of the IEC and related work with the ISO for over four decades. UL officers were instrumental in persuading the IEC to develop safety standards for electrical household products. The establishment of the Advisory Committee on Safety (ACOS) was a further result of UL's participation.

Early United States participation in the IEC standards activities generally permitted representatives to vote the acceptance of documents even though the requirements differed considerably from those applicable in the U.S. In many cases, the documents covered products having UL standards that were accepted as the relevant safety standards in the U.S. In the mid seventies the position began to change and delegates were instructed to vote for a document only if they were prepared to support appropriate revisions to U.S. standards to harmonize with the IEC documents. Subsequently, the "in some countries" procedure was introduced which permitted national differences to individual requirements and, thus, enabled acceptance votes on documents while maintaining different U.S. requirements.

Discussion

In general, it would appear,under current circumstances, to be in everyone's best interest to adopt worldwide harmonized standards. In this regard, UL has committed to being an active force for a U.S. transition to worldwide harmonized standards. This process must take into account:

- The technical requirements of the various U.S. Installation Codes (most of which are American National Standards),
- The high levels of component, product and system safety expected in the United States to protect the health and welfare of the American Public, and
- The environment in which the populace lives, works and learns. This is critical to UL's more than one-hundred year old core mission of public safety, through reduction or management of risk using nationally accepted standards for safety.

Standards, with respect to international trade, are a mechanism that can broaden the facilitation of economic transactions between parties in different economies. Standards facilitate economic transactions by embodying parameters which suppliers, purchasers and regulators, both government and the market in each economy, need to reach agreement to effect a transaction between parties in different economies.

The greatest economic benefit from standards can be realized when the idealized number of parameters or requirements that will facilitate the greatest number of transactions between parties in multiple world economies are captured. The economic ideal for standards is one standard which can facilitate all worldwide transactions. Unfortunately, differences in climate, culture, economics, physical environment and existing infrastructure cause risk reduction parameters and requirements to change from location to location. These differences produce variability in standards that are utilized in different economies.

Efforts to bring IEC and U.S. standards into harmony developed as the need to have products built to widely accepted safety standards was perceived to facilitate market needs on a worldwide basis.

One example of such harmonization efforts is the development of the safety standards for Information Technology Equipment, IEC950, and the harmonized document UL1950. With full industry support and UL participation, the IEC and UL standards for office machines and data processing equipment were merged into a single document, and, more recently, the safety requirements for telecommunication equipment have been added to the relevant IEC and UL standards. The UL Standard is a U.S. National Standard and a Canadian National Standard. There remain some North American differences from the

IEC standard; however, ongoing projects will eliminate all but the most essential differences.

A different situation exists with safety standards for household appliances, where industry support for harmonizing relevant U.S. (UL) standards with those of the IEC has been limited. The result has been the proliferation of notes detailing or referencing U.S. requirements that are different or IEC requirements that are not accepted in the U.S. This has led to some criticism of the U.S. as being unreceptive to the use of the IEC household appliance standards as national standards. Our neighbors in Canada have taken steps to adopt the IEC household appliance standards as acceptable alternatives for Canada, but the parallel national standards, similar to those used in the U.S., remain, as does the lack of product marking differentiation.

Cooperation

Standards harmonization on a global scale brings together the collective expertise of many cultures, most of which have traditions that significantly affect the corresponding national safety systems. Therefore, if international standards harmonization is the desired result, a strong spirit of cooperation and a demonstrated willingness to compromise must be the mandatory ethic of IEC Standards Committee participants and the national committees they represent. Cooperation and compromise will go a long way toward achieving our mutual goal of one standard, one conformity assessment accepted worldwide.

As noted earlier, UL has devoted significant resources to the harmonization efforts and to activities related to having technically supported UL requirements included in IEC and ISO standards. Where UL has been proactive, there have been successes. For example, the UL procedures for evaluating the physical and electrical properties of plastic materials are now being accepted in the IEC and ISO. Work is proceeding to have the UL methods of evaluating electrical insulation systems adopted in the IEC. UL now has several " international" standards with varying degrees of harmonization and identification of U.S. differences.

UL expects to continue its full support of the basic safety principles that have been the foundation of UL standards and UL's product certification activities. UL will work to develop the appropriate technical and experienced based support to promote such requirements where they do not now appear in the international standards. UL will also continue its development of the technical resources to support those basic safety principles already existing in international standards, so that UL staff and Industry representatives participating will have the background to meaningfully participate in the development of high level safety criteria. Where UL is not successful in achieving modifications of the international standards to incorporate such safety

principles, the "in some countries" notes will be supported for insertion into international standards to identify these basic principles applicable in the U.S.

All of the remaining differences between the UL and the international standards will be carefully considered and proposals developed to bring about harmonization, such as the introduction of alternative requirements and test methods where it can be shown that the alternatives are equivalent or comparable to the international requirements.

In particular, each of the U.S. installation practices, as covered in installation codes such as the National Electrical Code, will be reviewed carefully to establish the related application to the products under consideration. UL will also develop the technical support for the U.S. installation practices to differentiate those which are based on safety principles and others which are based on the U.S. electrical system with respect to voltage, grounding, and other characteristics or involve U.S. installation practices. Since different product industries will be involved, UL's response to the application of specific differences will need to be evaluated on a product-by-product basis.

Standards generally vary or are in conflict for the following reasons:

Variability of requirements based on cultural or physical differences of locations, and
National differences that can work against trade between different economies.

It is necessary that the U.S. Standards Strategy overcome these conflicts on an expanded, ideally worldwide, basis while National Standards deal with national issues. Practical application of this strategy dictates that standards be developed to resolve conflicts on both regional or international bases.

When the ideal of one global standard is not attainable, national differences must be linked to risks that are not common to all users of the standard or are not addressed by the standard.

Actions

In early January of this year, UL announced the creation of an internal group dedicated to the coordination of standards harmonization activities. This group will report to the Director of International Standards and the Global Program Manager - Standards. This group will be responsible for the development and implementation of proposals on UL positions and polices on harmonization activities, development and maintenance of a data base of harmonization activities and requirements, oversight and analysis of existing UL and international requirements, development of a priority list of standards

harmonization activities and an implementation schedule, and providing a liaison function covering all harmonization issues.

It is noteworthy, in the context of this paper, to reference a " viewpoint" document entitled: "UL Standards Harmonization Policy" that was discussed at the ZVEI/UL Seminar held in Frankfort, DE in September of this year (copy attached).

Attachment: "UL Standards Harmonization Policy"
bwfp9809 - ewwp9809

UL STANDARDS HARMONIZATION POLICY

(...as discussed at the "ZVEI meets UL" seminar at
ZVEI's offices in Frankfurt, DE September 26, 1997.)

Donald A. Mader, Executive Vice President and Chief
Operating Officer of The Americas Group for
Underwriters Laboratories Inc.

The Industry Cooperation on Standards and Conformity Assessment (ICSCA) at their April 7 and 8, 1998 meeting in Munich, Germany (ICSCA III) "noted with satisfaction" the UL Standardization Policy and considered the Policy "to be a very valuable contribution to the on-going discussions on Conformity Assessment in the TABD." ICSCA III Resolution 38.

INTRODUCTION

Underwriters Laboratories Inc. (UL) basically relies on the global industries serviced by UL's programs to provide encouragement and support for harmonization of existing UL Standards (80% of which are American National Standards) with IEC Standards. Typically, UL takes the lead in assessing the need for and desirability of harmonization based on industry information regarding target markets. Thus, this policy requires a significant investment of UL resources to participate in many IEC Standards Committees. UL takes care to balance the known needs of manufacturers, authorities, conformity assessment bodies, consumers, government, etc. in all standards harmonization initiatives.

DISCUSSION

Generally, it is in everyone's best interest to adopt worldwide harmonized standards, and UL has committed to being an active force for a US transition to worldwide harmonized standards. This process must take into account the technical requirements of the various US Installation Codes (most of which are American National Standards) and the present levels of component, product and system safety expected in the United States to protect the health and welfare of the American Public, and the environment in which they live, work and learn. This is critical to UL's more than one-hundred years old core mission of public safety.

COOPERATION

Standards harmonization on a global scale brings together the collective expertise of many cultures, most of which have traditions that significantly affect their national safety systems.

Therefore, if international standards harmonization is the desired result, a strong spirit of cooperation and a demonstrated willingness to compromise must be a mandatory ethic of IEC Standards Committee participants and the national committees they represent. Cooperation and compromise will go a long way toward achieving our mutual goal of one standard, one conformity assessment accepted worldwide.

IMPLEMENTATION

1. UL will participate in ISO and IEC to develop new internationally-accepted standards, especially when no national, regional or international standard currently exists.

2. When no UL Standard exists, preference is to adopt an existing international standard without differences if the requirements fully address the level of safety expected by the American Public and the U.S. Safety System.

3. When no ISO or IEC Standard exists, preference is to have an existing UL Standard adopted as an international standard without differences if the requirements fully address the levels of safety expected by the "global family" and the various national safety systems.

4. When there are existing UL and ISO or IEC Standards and there is general product category alignment of their scopes, preference is to harmonize the UL Standard with the ISO or IEC Standard (or the ISO or IEC Standard with the UL Standard) with as few national differences as possible. Any national differences shall be fully justified by:

   (a) documented national legislation,

   (b) documented national legal precedent, or

   (c) documented technical prerequisites of the national safety system or the national installation code/practice.

   National differences otherwise shall be avoided by:

   (a) introducing technically and experience-supported national basic safety requirements into the current ISO or IEC Standard, or

   (b) if no other possibility exists, negotiating alternative or harmonized "safety-equivalent" evaluation criteria which will not have the result of a possible source of barriers to trade.

Presentation to

U.S. National Summit: "Toward a National Standards Strategy to Meet Global Needs"

by

Henry Line
Vice President, Global Product Standards
AMP Incorporated

"Identifying U.S. Needs for Domestic, Regional, and International Standardization"

Let me begin by thanking Sergio Mazza, Ray Kammer, and Dr. Collins for inviting me to speak at this important Summit. In the broad context of the word "Need," my observations will address two dimensions – the need for standards and the need to improve the system by which global standards are developed and the participation in it by the U.S. As there are many here today who have heard me speak about the importance of standards, I will not spend too much of my time, here, discussing this aspect of the problem. I must admit, however, while the case for standards is so obvious to those of us who labor in this vineyard, one of the problems that must be overcome if this Summit, ultimately, is to be declared a success, is to figure out how to make CEO America more aware of the tremendous importance of standards to the success of their businesses. But that's a topic for another seminar.

From a business perspective, three hugely important interlinked market forces are significantly changing the dynamics of global competition. They are the globalization of business, the fast-paced implementation of new technology, and the economic and technological convergence of markets. It is a simple, but profound, truth that each of these forces would have little impact were it not for standards, particularly global standards, that serve as their enabling catalyst. Standards that give market credibility to new technology. Standards, coupled with advances in semiconductor and software technology, that enable industry segments to converge by assuring compatibility and interoperability of services and systems. And standards that pave the way for both a customer and supplier base that are truly global.

From industry's perspective, the simple fact of the matter is that companies are finding that standards are setting the directions being taken by every market segment in which they compete. Here's why. Technology is continuously redefining a company's product base and standards set the

requirements for those new products. If companies aren't involved in the standards-setting process, they are allowing their competitors to make their new product decisions for them.

It is important to mention that industry will use the standards industry needs, regardless of their source, but the rapid rate of change of today's markets, more and more, is turning industry to those organizations that provide standards with alacrity and with technical excellence. The leading companies are investing significantly to influence this work and companies that don't participate in the development of these standards do so at their own peril. In a nutshell, that's the case for why standards are important. I'll not say anything more about that.

Because the implementation of new technologies must start somewhere, that is, they aren't often implemented globally at one instant; standards, to support those technologies, usually start out as national standards. But as technology is generally culture blind, appealing new innovations quickly spread to the rest of the world. Work in the private sector begins to make that national standard a regional or an international one. And that is when the problems, and perhaps the mischief, begin to take place. It's when criticism of the system arises – standards are too slow to emerge, they cost too much, they're technologically inadequate. It's when governments develop the perception that their markets are about to be invaded by other nations' products, and its when the opportunities arise for abuse by using standards and their applications as non-tariff barriers to trade. Congresswoman Morella's hearing in April on the subject unearthed some examples. And it's when regions and nations begin to think about the need for regional and national standards strategies. It is to this last point that I will direct the remainder of my comments.

First, let me say, with one exception I'll come to later, I do not favor a national standards strategy. I don't, because I don't think it's possible, principally because industry standards are sectorial in nature and, for that reason, I can't conceive of how a single strategy could address the needs of all sectors. And if a single strategy implied any central planning of the process, it would destroy the vibrancy of the system we already have in place which, for all its short comings, is still viewed by many as the most effective in the world.

However, if for no other reason than to more effectively accommodate the market forces I just mentioned, there must be changes to the U.S. approach. Accordingly, I embrace a set of overarching principles that most certainly apply to all sectors, and which, taken together, might serve as the basis for a strategy. Vigorously pursued, I believe these principles would eliminate

many of the problems we will discuss here today. I'll briefly discuss these key requirements

For the reasons given above, all standards must be market driven. Absent market need, standards serve no useful purpose. Further to this point, it is important to assure that we do not weaken the greatest strength of our system and that is its private sector leadership. It is the private sector that is most closely attuned to marketplace demands, and therefore the demands for standards. The system must continue to be voluntary, consensus-based, and provide for due process. However, to this end, it may be necessary to revisit the definition of who the materially interested parties in the process are and how much consensus is enough. I believe that ANSI must continue to serve at the vanguard of this work.

But it is equally important to note that the private sector can't do the task alone. It needs the close cooperation of government – which I think needs to be even closer than it has been in the past. This cooperation is especially important when matters of the public interest, trade issues, and government development and use of standards are involved. For someone who has had the pleasure of working with such individuals as Jim Turner and Belinda Collins, I can personally attest to how much can be accomplished when the adversarial barriers between government and industry are broken down. We need more of this. To this end, I am heartened by, and encourage greater commitment to, the agreements contained in the ANSI-NIST Memorandum of Understanding.

We must recognize that the decentralized sector-specific approach and the diversity it offers are another strength of our system. As already mentioned above, and as indicated in the National Academy of Sciences report of 1995 on these issues, this diversity provides efficient solutions to market-driven standards requirements. It is recognized that this, too, is not without its problems. Aggravated all the more by the globalization of this work, decentralization places great demands, on adequate and rapid information transfer, among all the stakeholders. More implementation is required here.

With the electronic tools at our disposal today, this is a problem that will quickly be remedied. More to the point, increased information transfer by electronic means should be a cornerstone of any U.S. national strategy. Using information technology tools to increase the efficiency of both U.S. and international standardization has the further advantage of making standardization accessible to a broader range of participants, among which are small companies, state government agencies, and consumers. We must do more work to make sure that small and medium sized companies and state government agencies are brought into the process.

As mentioned earlier, specific industry requirements must be addressed by the industries themselves. But from a broad policy perspective, the public and private sectors must work closely together to remove standards-based non-tariff barriers to trade. These include unnecessary and duplicative conformity assessment requirements and non-value-adding costs of certification. Support should be given to the suppliers' declaration of conformance – both for international standards and for technical regulations, and for assuring that product marking and labeling requirements reflect market needs. These are only a few of the points which are receiving strong support from the Industry Cooperation on Standards and Conformity Assessment, an organization of over 50 leading global companies concerned about these matters.

A final principle is based on the observation that excellence is a journey, not the destination. There has been too little work, especially at the international level, to improve the rate at which standards are developed, to assure they embody the very best technical content, and to reduce the costs of the system. Using the lessons learned and tools developed during their own reengineering, companies should insist upon and participate in the reengineering of all phases of standards development. Continuous quality improvement must become the mantra of all standards developers.

I will close with what might be the most important principle of all – the need for all stakeholders to get involved. How many times do we have to relive the lessons: If companies don't do it, their competitors will; If the private sector doesn't do it, governments will; and if the U.S. doesn't do it, other countries will. Abdicating our responsibilities to others guarantees their outcomes, not ours. Thank you very much.

NATIONAL STANDARDS STRATEGY

BASIC STRATEGIC PRINCIPLES

1. Industry standards must be market driven.

2. The U.S. system must remain under private sector leadership and must continue to be voluntary, consensus-based, and provide for due process. ANSI must continue to serve at the vanguard of this work.

3. There needs to be a close working partnership between the U.S. private sector with government agencies.

4. Development of industry standards must be approached on a sectorial basis.

5. Increased information transfer by electronic means needs to be a cornerstone of any U.S. strategy.

6. Small companies, state government agencies, and consumers must be brought into the process.

7. Public and private sector cooperation to remove standards-based non-tariff barriers to trade.

    - Support for supplier's declaration of conformance
    - Product marking and labeling – CASCO single symbol
    - Mutual recognition and global transparency

8. Process reengineering to assure more timely, less costly production of standards with improved technical content.

9. Need for greater involvement by U.S. companies with executive oversight.

Charles Ludolph
Deputy Assistant Secretary for Europe
International Trade Administration
U.S. Department of Commerce

September 23, 1998

Thank you very much. I appreciate the opportunity to share my perspective on standards and international trade. I am from a U.S. international trade agency and therefore I am interested very much in both themes of this conference. First is the fact that global interests need to be addressed regarding U.S. exports and imports. And the other is that we need to look at the issue of standards in trade because the U.S. economy has changed substantially. Trade now presents more growth for U.S. global business than any other U.S. endeavor and therefore represents a much more important aspect for standards than ever before.

Let me just briefly list a few things that I think are already beginning to be responded to by standards developers. I have had the great pleasure of sharing in several activities of the American National Standards Institute, the American Society of Mechanical Engineers, and the ASTM, to support business in international activities. I think that while there are many needs to be addressed for both exports and imports, most U.S. standards organizations are now well on the way to addressing them. But to maintain competitiveness, we must work harder.

I have prepared a little illustrative list of needs that stand out. First, we have an increasingly global economy. The international market means more to the United States than ever before, yet the paradox for me is that regarding standards, the world is fragmenting. In particular, the ISO and the IEC are not what they used to be; U.S. standards are not what they used to be; and European standards haven't risen yet to represent a coherent supplement. There are more national standards being developed and more national requirements than ever before, and that aspect has to be addressed and be overcome if we are really to reap the benefits of global economies of scale and global competitiveness. This manifests itself not only in a reduction in market access and competitiveness for businesses looking toward global opportunities, but it also reduces consumer safety and consumer protection in national markets.

Multiple products with different specifications coming into, be it the U.S. or the European market, increase the demands on regulators and the consumers to respond and maintain the safety of their activities. So fragmentation is the challenge in the global marketplace, and we need to put our shoulder to the wheel to increase the ability to respond to the needs of producers and to consumers in a unified, coherent and harmonized way. Many endeavors are underway: European standards organizations and the ISO are very responsive to the needs of Central Europe and the Newly Independent States. ISO and IEC and ITU are very responsive to the needs of many economies around the globe. Many U.S. standards producers also fill the need for global representation, global protection for consumers and global specifications for manufacturers. But it is an uphill battle, and it is true that many producers of standards, particularly in the United States, still see, whether they are users of standards, consumers participating, labor unions

participating or manufacturers participating, still see U.S. standards primarily as North American Standards, a technology which must be applicable around the world. That is, technology is changing rapidly, but this is not always the case, and the first need in the standards system is for the private sector to take a position and look more toward global protection of consumers' needs, and global specifications, to compete with new technologies being embedded in foreign standards. You can't reflect the technologies of the global market only from the perspective of U.S. technology. You need to involve more foreign consumers, foreign labor interests, and foreign producers. How do you do that? ANSI has been leading an effort to bring ISO and IEC into more of an aggressive position in developing standards in important technologies. It's important that the U.S. business community continue and expand its support and activity for ANSI's development of national positions, and expand the work of ISO and IEC to represent the global positions that need to be presented. Third, the ISO and IEC don't always reflect the standards development processes that create a useful standard. Consensus building, the need for balance of interest, the representativeness of ISO and IEC committees, all need to be looked at and expanded. You can't have a standards committee in ISO and IEC with only one national representative who may or may not have had the benefit of consumer, manufacturer and labor interests developing a standard that will be accepted in the United States and in other national markets. A standard, as Mr. Castino indicated, that is safe but not responsive to the needs of the users is not going to be used in the world market, certainly not in the United States. For that reason, then, the United States Government has proposed that the WTO look at the ISO and IEC other international standards bodies to make sure that their standards processes--building balance, building consensus--are as responsive to the standardizers' needs as they are in other standards bodies, such as ASME or ASTM.

Fourth, let me say that we have one major competitive flaw that is long standing in the United States in terms of standards development, and that is the fact that the world is metric and we are not. I can't tell you what a disadvantage it is that U.S. manufacturers not only have to specify in their standards nonmetric specifications for the U.S. market, but then have to label everything they send out of this country for metric and nonmetric indications. This is a high cost competitive disadvantage for U.S. manufacturers. There are even laws in the United States that require dual labeling of both metric and nonmetric even though the consumer may not be able to deal with a metric measurement in the United States. The failure of the United States to move toward a metric system is a grave competitive disadvantage and needs the support of the standards community as well as manufacturers to move in the direction of a metric system.

Fifth, U.S. standards developers, as I indicated earlier, need to spend more time considering the international competitiveness of the standards positions they are developing for the U.S. standards developers. There are many technologies, be they materials technologies or the toughness of steel or the weight relationship of steel, that are barriers, that are safety issues, that are barriers to access in foreign markets. We require different material standards, we require different electrical standards, we require different aspects than other countries. These issues may be safety issues and it may be warranted that in every--that in many, if not all instances--that standardizers are specifying a level of materials, material specifications that are requied for safety in the United States given other criteria, such as inspections. But I think many U.S. standardizing organizations need now to reassess whether these are standards that are just

different, or these are standards rooted in safety. There are unnecessary differences in material specifications, in other specifications and standards, and we should now look at these from the standpoint of an international rather than a national or North American position.

I am going to just mention one other aspect where U.S. standards needs are very important, and that is in the fundamental issues, not in terms of testing or in material specifications or product specifications, but in more fundamental aspects of standardization. Most of the global system, most of the world marketplaces, are now developing--for a variety of reasons--new standardization systems, measurement systems, calibration systems, and codes for the use of these standards; building codes, equipment codes, pressure codes, electrical codes. Many national governments now are developing these that did not have them before. Measurements and calibration are fundamental aspects of competitiveness; they cannot be forgotten or left to others to develop. Many competitors and competitor nations are investing a great deal of money in the development of measurement systems and calibration systems around the world, and whether you are an instrument business or if your business depends on instrumentation, or if you specify one kind of measurement or calibration statistic and others do not know how to do that, or cannot do that, or do not want to do that, you are at another standards disadvantage. NIST and others in the U.S. Government are spending a great deal of time trying to get sensitivity among our major export markets to the importance of measurement and calibration and are offering technical assistance in this area, and it is important that whether it be in the development of codes or in the development of measurement and calibration systems that the standards community respond to that, I only have one last statement, that has to do with imports. I have talked a lot about what it takes to get our market, get ourselves more integrated.

Federal regulators and U.S. consumers are under informed and unprepared to deal with the challenges of what all these specifications represent. Many testing bodies and regulators are responding to this, so I am not saying that we are in front of an onslaught of foreign specifications. But I am saying that it is very important to come back to the use of internationally useful, broadly-used, world-class standards. There has to be in U.S. standards development work the need both for regulators and U.S. manufacturers and U.S. users to look at the import implications of having only a national standard or a nationally-based standard or specification while at least 15 % to 20 %, if not 50 %, of the market is based on some foreign standard that is allowed in the market. Regulators cannot deal with the fragmentation of the safety system specified in standards as manufacturers cannot deal with the export system in fragmentation. There is fragmentation in the U.S. market. The U.S. market will remain open, regulators will be responsible for looking at all safe products. There is at least an aspiration on the part of the WTO to allow the U.S. Federal Government to look at imports and to look at foreign specifications equivalent to the levels of safety in the United States, but it is a regulatory system that is under siege. International standards are one answer to that. International standards allow the unification or harmonization of the specification regulators must look at. Rather than fifty or three specifications challenging the U.S. consumer, there should only be one standard supporting the U.S. consumer, and it should be an internationally recognized world-class standard. So with that, I think those, from my standpoint, are the needs of the import and export system for standards development, and I appreciate your attention.

R. DAVID PITTLE, Ph.D.
VICE PRESIDENT & TECHNICAL DIRECTOR

CONSUMERS UNION*
PUBLISHER OF CONSUMER REPORTS

REMARKS DELIVERED AT

THE NATIONAL SUMMIT: TOWARD A NATIONAL STANDARDS STRATEGY TO MEET GLOBAL NEEDS

SEPTEMBER 23, 1998

WASHINGTON, D.C.

*Consumers Union is a nonprofit membership organization chartered in 1936 under the laws of the State of New York to provide consumers with information, education and counsel about goods, services, health, and personal finance; and to initiate and cooperate with individual and group efforts to maintain and enhance the quality of life for consumers. Consumers Union's income is derived from the sale of Consumer Reports, its other publications and from nonrestrictive, noncommercial contributions, grants and fees. In addition to reports on Consumers Union's own product testing, Consumer Reports with approximately 4.6 million paid circulation, regularly carries articles on health, product safety, marketplace economics and legislative, judicial and regulatory actions which affect consumer welfare. Consumers Union's publications carry no advertising and receive no commercial support.

I appreciate the opportunity to be here this morning to offer a consumer perspective on the important issues being discussed at this summit. I speak to you both as a former commissioner of the Consumer Product Safety Commission, who served under four U.S. presidents, and as the Technical Director of Consumers Union, the nation's largest independent tester of consumer products and services. To summarize my remarks up front: Based on my 25 years experience in these two roles and CU's experiences over many years, I have come here to argue that consumer participation in standards development must be an integral part of our global strategy and that such participation should be funded to ensure consistency and credibility.

Now for the longer version. The problems being addressed by your agenda are both complex and timely, especially given the rapidly changing role of national and international standards in establishing the ground rules for global markets. Workable solutions are vital not only to the stability and strength of our economy, but also, and equally important, to the quality of life and well being of consumers. We all have a stake in the outcome.

I look first to my government experience. During the nine years I served on the commission►, our greatest challenge was to find the best way to reduce or eliminate unreasonable risks of injury and death to consumers. By "the best way," I mean one that is effective and is both technologically and economically feasible. The use of standards was a crucial element in our

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► Dr. Pittle was appointed to the Consumer Product Safety Commission by President Nixon in 1973 and re-appointed by President Carter in 1977.

toolbox, whether they were voluntary or mandatory. When a serious, industry-wide pattern of injuries and deaths become evident, our first approach was to ask the industry to move quickly to address the problem. Many times they did just that, and consumers were well served within a relatively short time by industry's voluntary action. Indeed, in today's marketplace, there are hundreds of product safety standards that were developed in a voluntary setting that protect consumers from needless pain and suffering.

Unfortunately, not every industry leaped to the challenge. Instead of doing what was necessary to require safer performance for new products, some industry groups spent their time and energy trying to shift the focus to the victims and the role their behavior played in the injury. They fell into the blame game, almost as if to say people deserve what they get when they aren't smart enough to use the product right. In many of those cases, the commission used its authority to develop mandatory safety standards, and generally did so successfully. Injuries and deaths were reduced as a result.

Throughout the standards development process, the commission recognized, in accordance with the CPSA, the unique and valuable role of consumer participation. In my view, developing safety standards without the participation of consumers makes no more sense than developing standards without the participation of manufacturers or any other essential interest. After all, it is the safety of the ultimate user that was being analyzed and improved. And these proceedings will necessarily cover such factors as consumer expectations and consumer behavior, and ultimately propose a level of safety for consumers—these are issues that should be decided ***with***

consumers, not *for* consumers.

By consumers I mean knowledgeable, experienced citizens who do not have a direct, significant economic stake in the manufacture or sale of the product. They include, for example, end users of the product, university researchers, medical experts, and consumer organizations.

In selected proceedings during the early years, CPSC reimbursed the out-of-pocket expenses, as well as offering an honorarium, to consumer participants. We also recognized the value of consumer participation that was supported by independent technical expertise, and therefore we provided funds so that consumer participants could hire their own experts to help them assess complex technical issues, understand the industry's position, and sometimes develop an informed position of their own. In my view, consumer participation greatly improved the process.

Switching to my current hat, at Consumers Union we use the best tests we can find—or develop—to help us evaluate products for quality, performance, convenience, value, and safety. And we do so in the most objective, accurate and unbiased manner we can. As many of you know, Consumers Union does not accept outside advertising, free test samples, gifts, or grants from any commercial entity. We are supported solely by the readers of Consumer Reports, and the consumers of our other information products. We consider our independence to be the cornerstone of the impartiality we apply to all our work. Bottom line: We have no stake in which products or services do well—or not so well—in our tests.

Similarly, we have no stake in whether we use tests based on an industry voluntary standard, a government mandatory standard, or our own test development. Rather, we evaluate available standards—both mandatory and voluntary—to determine which elements are adequate and appropriate for our test programs. Often we will develop tests of our own, but we are just as likely to incorporate the industry's standards directly.

Over the years, members of Consumers Union's technical staff have served as consumer participants on various government and voluntary standards committees. As with our product tests, we have no financial stake in the final outcome of the standard under development, but we do have a very strong commitment to helping produce a standard that will be effective in protecting consumers. We also participate in the consensus review process for numerous product safety standards. There is no doubt in my mind that our participation in these various committees affected in a material way the final outcome of the standards.

I should point out that, to maintain our independence as a publisher of impartial advice to consumers, CU does not accept financial assistance for our participation in voluntary standards work. For other organizations, such support would likely be crucial to its ability to participate.

Based on all of this experience, we have arrived at a point of view regarding consumer participation that I would like to summarize for you now. I call it CU's Top Ten List of reasons why consumer participation—funded consumer participation—must be an integral part of our national strategy for effective participation in world markets.

1. The role of the government has changed dramatically. The Technology Transfer and Advancement Act of 1996 requires, among other things, that federal agencies use voluntary consensus standards whenever possible. With greater reliance on voluntary standards rather than mandatory standards, the role of government is diminished in protecting the consumer. Voluntary standards are not developed under the same policy direction as the agency would have applied in its own proceeding. As these government agencies evaluate voluntary standards for possible adoption, they will undoubtedly evaluate the process by which the standards were developed. Without strong participation by consumers, the standard's value and credibility will be greatly weakened.

2. American consumers should be on a par with their European counterparts. Countries such as the United Kingdom, Austria, Finland, Norway, Sweden, Denmark and Germany provide funds to guarantee participation by consumers in standards development. Their voice is effective and constructive. American consumers need the same support.

3. The global community recognizes the importance of consumer participation, and is considering steps to isolate organizations that do not. At the 1997 annual meeting of COPOLCO (Consumer Policy Committee of ISO), the Director General of Consumers International, Julian Edwards, urged the following recommendations:

- National standards bodies need to have consumer committees within their structures.
- National standards bodies need to encourage inclusion of consumers in their delegations to international meetings, including funding their expenses.
- Membership in COPOLCO should not be open to national bodies that do not have a consumer council.

4. Again from the European community, ANEC has urged standardization bodies to involve consumers in their work. In particular, ANEC called for greater priority and more resources given to involving consumers in standardization work.

5. Any strategy that hopes to solve the challenges of global markets needs to be politically acceptable at home and around the globe. The presence of consumer participation in the development and use of voluntary standards demonstrates balance and fairness—while meeting behind closed doors with no role for consumers demonstrates the opposite.

6. Consumers have an inherent right to participate. Society is moving toward a fuller understanding of what a civil society should provide it citizens. With this evolution has come the recognition that those directly affected by the outcome of a process have an inherent right to participate in it.

7. Consumers can participate competently where complex issues are involved. It has

been argued over the years that the technical issues are just too difficult for consumers to comprehend and comment on in a meaningful way. I disagree, especially when consumer participation includes the funding of independent technical experts for use by those participants. Moreover, standards will undoubtedly become more performance-based rather than design-based, and consumers have the capacity to grasp and comment intelligently on performance criteria. They know the performance level they want in the marketplace. Similarly, as financial services come under the lens of international standards, there is a clear and valuable role for consumers. In short, the argument that consumer participation will lack competence is false.

8. Consumer participation in international standards-setting activities has been successful. For example, Consumers International has been an active participant in the work of the Codex Alimentarius Commission and its many subsidiary bodies for a number of years. Member organizations of CI, including Consumers Union in the U.S., have also participated in the work of national Codex committees. Consumer participants have influenced substantive decisions (safety standards, labeling standards), and just as importantly, have helped ensure that the process itself is open and transparent, which in turn helps bolster the credibility of Codex standards.

9. Consumer participation adds credibility to our standards at a national level, as well as enhancing the chances of their acceptance at an international level. When the

interests of the end user are represented directly in the development of a standard, there is far greater chance that the standard will be seen as benefiting society as a whole rather than more narrow commercial interests.

10. Manufacturers, especially small manufacturers, don't want to be treated as second-class participants in national and international standards proceedings, and I agree they shouldn't be. But consumers don't want to be treated as second-class participants either—and they are. In a recent survey conducted by ANSI of 181 standards organizations, roughly half of the 104 responders invited consumers to participate, and of those, very few provided financial assistance to enable adequate participation. Most of the financial support has been in the form of "lunch and snacks." Beyond refreshments, the degree of financial assistance is "extremely low." This lack of financial assistance demonstrates a lack of commitment, and puts us far behind our counterparts in Europe.

In summary, as you develop a new strategy, I urge everyone here to remember this: Our national standards strategy must include consumer participation as a fundamental component. Anything less will be a flawed system that is unfair to consumers and subject to challenge and controversy. Like manufacturers, consumers have a clear and vital stake in the outcome. Their participation will add significant value and credibility to our national and international standards, and we are all winners as a result.

Thank you—the ball is now in your court.

The End of Geography -- The Globalization of Standards

Keith Termaat, Ford Motor Company

Chair: ANSI Company Member Council-Executive Committee

ANSI/NIST Roundtable: September 23, 1998

Geography

- While geography continues to be critical in matters of state
- It matters less in trade and quality of life values
- And even less in matters of technology
- In fact, technology is enabling the end of geography … through the rapid globalization of standards

Standardization

- Standardization is a political process
- With voluntary consensus elements and regulatory elements
- Requires partnership between government and private sector interests
- This partnership defines national interests as we face the world

Keith Termaat - 3

External Realities

- Focus must be on external (to the U.S.) realities:
  - Increasing influence of the CEN/CENELEC on ISO/IEC
  - The relatively weaker U.S. position in ISO/IEC
  - Adoption of ISO/IEC by many nations to foster trade
  - Emerging trans-national quality of life values
  - The use of a variety of standards fora to advance interests
  - Capable U.S. sector SDO's disadvantaged in ISO/IEC
- A big U.S. tent is taking shape to address these realities

Keith Termaat - 4

A Big Tent Approach

- These roundtables are evidence of big tent
- The U.S. projects cohesion to the world
- Essential to have a few cohesive U.S. strategies to unite around
- Supported by sectoral strategies to reflect the diversity of our interests

Keith Termaat - 5

Priorities for a Cohesive National Standards Strategy

1st Priority	Reposition the U.S. relative to global standards players
2nd Priority	Create and advance a consensus U.S. standards issues agenda
3rd Priority	Secure a robust financial base for ANSI as the U.S. national body to ISO/IEC (third roundtable)

Keith Termaat - 6

Reposition the U.S.

1st Priority:

- ANSI/USNC are the U.S. National Bodies
- CEN/CENELEC become the "National Bodies" of the EU
- Drop EU nations from ISO/IEC replaced by CEN/CENELEC

Keith Termaat - 7

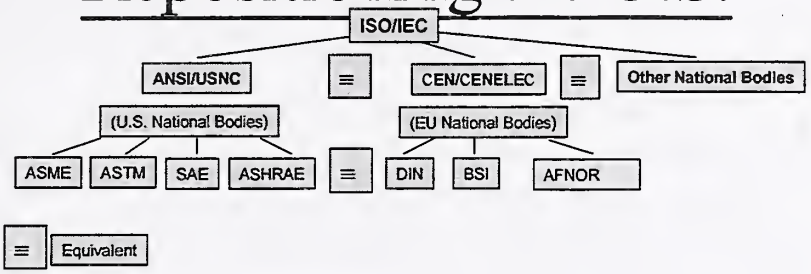
Reposition the U.S. (Cont.)

- U.S.-based sectoral SDO's (e.g., ASTM, SAE, ASHRAE, ASME) compete as equals of DIN, AFNOR, BSI
- DIN/AFNOR/BSI work through CEN/CENELEC; as ASTM, SAE, ASHRAE, ASME work through ANSI/USNC

Advantage: Levels the EU/U.S. Playing Field

Keith Termaat - 8

Repositioning the U.S.



Keith Termaat - 9

U.S. Issues Agenda

2nd Priority:

- Horizontal (cross-sectoral) standards issues of import
  - personal data privacy
  - healthcare management process
  - standards relating to environmental, product and service quality
  - elimination of technical barriers to trade
- All these issues have government and company and SDO and consumer components

Keith Termaat - 10

SUMMARY:

End of Geography -- the Globalization of Standards

- U.S. to face the world with cohesive national strategies
- Address realities: EU and CEN/CENELEC, adoption of ISO/IEC by other nations, transnational quality of life values, the emergence of fora other than voluntary standards, sectoral SDO's
- Big U.S. tent than addresses these realities

Keith Termaat

PRIORITIES

- Priorities for a national standards strategy
  - 1st - Reposition the U.S. relative to global standards players
  - 2nd - Create and advance a consensus U.S. standards issues agenda
  - 3rd - Secure a robust financial base for ANSI

Toward A National Standards Strategy to Meet Global Needs
September 23, 1998 - Washington, DC
Presentation By: James A. Thomas, President, ASTM

Over many years, the U.S. voluntary standards system has time and again demonstrated that it can respond to changing marketplace expectations, meet the demand for high-quality, globally-accepted standards, operate in a system that is open and provides equal opportunity for all interested parties to participate regardless of national origin, and is non-discriminatory by providing equal treatment and ability for compliance without favoring one company or nation over another.

Some of the only "open" standards bodies in the world reside in the U.S. Standards created in an open atmosphere do not on their own, create technical barriers to trade. These arise when government regulatory requirements and other governmental initiatives give preference to specific standards, or require the use of standards of a specific origin to demonstrate compliance with government imposed acceptance criteria. The approach generally employed is to make sure the rules require or encourage the use of a standard from a source that will favor a particular nation's technology or industry to the exclusion of those from other nations.

The generic strategy regarding standards seems simple. Everyone wants one standard that his or her product meets and he or she wants everyone else to use it. Based upon a never-ending flow of examples, this appears to be exactly what our colleagues in other parts of the world understand, and are doing, and I respect them for their resolve to use the current system of standardization to achieve their objectives.

Some time ago in an effort to eliminate "national" standards that it regarded as "technical barriers to trade, " the U.S. Trade Representative's office opted for a blanket policy of promoting "international standardization" with the implicit understanding that international standards are those created by organizations such as ISO and IEC. The U.S. government made commitments to other governments to accept international standards and to use its best efforts to get U.S. buyers and sellers to use ISO and IEC standards. This blanket commitment was made without a predetermination of whether the resulting standards would be to the advantage or disadvantage of U.S. industries. Ray Kammer sums it up nicely in his interview in the June 1998 issue of ASTM's *Standardization News* where he states, "The suggestion that only ISO/IEC standards are international standards is neat and convenient, but it's wrong."

The blanket commitment to ISO and IEC made by the U.S. government before it understood whether the ISO process within the current social, political and economic realities of the world, would work for all U.S. industries was an error in judgment possibly due to a lack of information from key U.S. stakeholders. ASTM believes that U.S. industry is in a much better position than government agencies to determine whether and how well any particular standards development process, including ISO, works for it. The ISO process can provide a benefit to those U.S. industries that use it successfully, and a detriment to those U.S.

industries which are unable to do so, but it is industry, not government, which should be making the judgement on whether to use any particular process.

Moving to another matter critical to U.S. competitiveness. ASTM constituents have been told repeatedly that there is nothing inherently wrong with the ISO system. This may or may not be the case, but we must not be naïve regarding the current realities of the evolution of regional standards and how the changing landscape is offering advantages to some countries within the context of the ISO process. A process that was created fifty years ago against a very different social, political and economic backdrop. Today the European Union requires all members to implement European Standards. The number of nations in the Union continues to grow and European Commission money is used to support Eastern European acceptance and implementation of CEN/CENELEC standards. This increases the number of countries in ISO whose economic, social and political well being are tied to a single set of regional standards. It seems logical then to think that the countries tied to the European Union which are required to use CEN standards would do everything in their power to transfer those standards that are good for European industry and the European economy into the ISO system. This seems consistent with the basic strategy of developing one standard that a product meets and influencing everyone else to use that standard.

As a nation, we must understand the realities of the ISO process and factor this understanding into a market-based, sector-specific approach to a standards strategy. Part of the solution to eliminating trade barriers is for governments to not agree that everyone use standards developed by a specific international standardization system. Generally speaking, buyers and sellers -- not standards bodies or governments -- determine which standards will be used for trade. Buyers and sellers will use those standards which best meet their needs and wants, and certainly not because they carry any particular label. The solution to this problem has always been to defer to the forces of the marketplace, that is, to let the users of the standards determine which standards meet their needs. Free trade will arrive when buyers and sellers and regulators make this judgment, not when governments decree it. Any standard that does not satisfy market requirements is no standard at all.

The equation for U.S. success must also include private sector representation in ISO through our National Standards body – ANSI. The mission of ANSI is to represent U.S. interests in International and Regional non-treaty organizations. Critical to establishment of an effective standards policy is a clear understanding of ANSI's role in promoting positions that support U.S. economic and societal interests. ANSI must be focused on advancing the acceptance and use of those standards which achieve what is good for U.S. industry and the U.S. economy. The technology used by U.S. industry to create and sell its products is embodied and documented in U.S. standards. U.S. industry, large and small, has spent billions of dollars over the years to develop these standards. The U.S. has been the world leader in consensus standards development. Let me be perfectly clear on this point, working in bodies such as ASTM, ASME, NFPA, and SAE, U.S. industry has, over the years, created the most technologically advanced body of standards in the world. Most remarkably, this has happened voluntarily, free of government funding or mandate.

These standards have been created through a consensus process which allows producers of all sizes and purchasers of all sizes to participate regardless of their citizenship. The resulting standards represent and satisfy the needs of U.S. technology, U.S. products and U.S. industry. They represent what the U.S. has to offer to the world. We have a system of standardization in the U.S. that, if embraced and advocated by a true partnership between industry and government, can more effectively achieve global acceptance of those standards and products they represent. From the standards perspective there is no better way to advance U.S. economic and technology interests. Unfortunately, despite their superiority, U.S. standards have played little or no part in any organized strategy to enhance U.S. competitiveness. Other industrialized countries in the world (Germany, for example) spend millions of dollars annually to disseminate their national standards throughout many other countries for the expressed purpose of gaining acceptance of their products and enhance the competitiveness of their industries. The U.S., unfortunately, has paid little or no attention to this rather obvious way of enhancing U.S. competitiveness. The range of market-driven solutions available from U.S. domiciled standards development organizations must be an important component of any national standards strategy.

The goal of ASTM and other organizations in the U.S. standardization system is to meet the needs of industry and government by developing standards that improve product performance, promote market acceptance of new technology and improve the overall quality of life. And, as best they can, advance those standards to the rest of the world. But it is difficult in the face of regional competition, to go it alone.

Finally, the solution to a national standards policy must include a modification of the strategic approach of our trade negotiators as well as greater support from our official representative to ISO to ensure that the market based system of standardization utilized in the U.S. is understood and not disadvantaged within the standardization systems of ISO, IEC, CEN, CENELEC, etc. and the relationships which continue to grow between these organizations.

Today's meeting is only the first step of a long and difficult trip. ASTM commits itself to this journey. We will continue to work with industry and government in support of the development of a U.S. standards strategy which is market-driven, industry-specific and fair.

Question and Answer Period

Mr. Mazza: Thank you Jim. I would now like to invite questions from the floor. We have just a little bit under 15 minutes for questions from the floor to pose any to any of the panelists. If the floor is shy today, I would invite the panelists to ask questions of each other, and that really ought to be fun.

Mr. Vardakas: This is a question, not a position on what was said. Tom said about his proposal to have an internationally accepted standard if there no international, then take UL. Who is going to make this international acceptance in the model of Tom Castino? Should it be an ISO related system or not, or it is international just from the international public without any structure supporting this acceptance?

Mr. Castino: Thank you, Mr. Vardakas, for that easy, very good question. It's what makes it reality. In my view, if you remember, I assumed that an existing document - be it U.S., Canadian, or what-have-you North American document, needs to be adopted. The process by which that will occur, I think, is part of the national strategy. That's what I think I heard from Jim and others here. And what should happen is that the document can work through ISO/IEC CEN/CENELEC processes. That would be our first choice. At UL - and no doubt others have more experience - we've had some success in that area. However, that success has primarily been related to those areas where there were voids in methodology or acceptance systems, and the standard being laid on the table filled the need rather thoroughly. Not necessarily complete but rather thoroughly. Where the document represented an untested or new approach, those documents found a hard road in ISO/IEC and other areas. That has to be changed by virtue of what I call the impact of the national standards policy. Now there are other methods, perhaps less palatable and perhaps less popular. One of those methods is that you simply use the standard and it fills a need unilaterally to the consumer, unilaterally to the authority having jurisdiction, and perhaps unilaterally to government. Where that happens you don't need a formal structure. It becomes a *de facto* document. Former Commissioner Pittle talked about how that can happen. Consumers Union has a concern. They develop a method to directly deal with the issue. For Consumers Union that deals with the issue. We have had state fire marshals do that. We've had authorities having jurisdiction do that and have had to add their test to our standards when we recognized it. That was a need to be fulfilled. So that's the second mechanism by which it can occur. And we must not forget the ever present economic transactions. If a document facilitates trade, then it will be used again around existing systems. That is less defined and I don't want to take up the whole forum here on that one. But I see those being the three processes. But you'll remember that when you and I talked in my office, I wanted to work by going through the existing systems.

Questioner: This question is primarily for Keith Termaat, but I encourage the other panelists to respond also. Keith, I think you did a very good job of summarizing the U.S. priorities and I compliment you for that. I would like you to perhaps identify your recommendations for mechanisms and a road map for achieving what those priorities would be. You had the three priorities at the end of your talk.

Mr. Termaat: I don't want to talk about the third one, having to do with funding the system, because there's a completely separate panel on that later in the day. With respect to the first priority, that's clearly a political one. I think that we need basically a united approach for the United States, which encompasses the USTR, encompasses NIST, and encompasses ANSI, to enter into negotiations to achieve a leveling of the playing field of the sort that I identified. I think we need a very clear-cut and simple idea and I've proposed one which is CEN/CENELEC being the European national body. But I think if we get the three branches I've mentioned, and through ANSI, of course, the participation of the SDOs, the consumer interest, and the like, that we literally enter into direct negotiation. At the ICSCA, I've heard a number of European business colleagues express painful awareness of the playing field being tilted against the United States and thinking that this is not fair. The second priority with respect to an issues agenda, I would hope that, at the end of the day, we'll have some sense of what the broad principles or issues are that we can unite around. Clearly, at the sectoral level there will be vast differences, but I would hope that when the proceedings are published that we will have at least the beginnings of an issues list. I want to come back to the earlier point. My personal view - and I have to hasten to add that it's strictly a personal view- is that the submission by the USTR to the WTO - and this is apparently fairly recent and I was just exposed to it - basically is saying that any standard developed by an open consensus process is OK. That's my personal view. I like a big tent approach. Internet standards are not in the ISO/IEC's system. Accounting standards are not in that system. We heard from Jim that there are any number of technology-specific standards that were developed by other means. I think we should include them all in this big tent and advance whichever one is of use to the marketplace.

Questioner: To follow up on your comment, Keith. If you could extend your proposal to the rest of the world, what is your view of representation from Asia, South America, and Australia, for example?

Mr. Termaat: I deliberately did not include that in my talk. One could argue that there are regional organizations emerging there as well. But I don't believe any of those organizations have achieved the degree of political unity that seems to be coming out of the European Union. I would prefer not to comment on that at this time. I'm European by birth. I started life in Holland and still have many ties back in Europe. There's a fundamental difference in thinking on how to approach these kinds of issues. The difference is that here in the States our attitude is that everything is permitted unless it is prohibited. In Europe the attitude seems to be more of the reverse, that it's prohibited unless there is a specific authorization. So there are differences in our system. Frankly, I like the American System very much. I think that we have to first address our position *vis-à-vis* the European Union.

John Rankin, former Chairman of ANSI and currently the IEEE VP for Standards: I would just like to compliment the speakers on some very fine presentations, particularly Henry Line. I agree very strongly with him on having a national standards strategy, the business is just too sectorial for that. If we do anything with strategic direction, I think we have to start at the international level. I was very interested in Keith Termaat's proposals. I see problems with it. I think Europeans would come back and say if you want us to go under the European's umbrella, you go under your North American umbrella. So one question I have is, where does Canada stand in all of this, and Japan? I think my

proposal's got a lot more thinking through. Also, the fact that sometimes the European bodies are extremely useful to the American multinationals to get a U.S. viewpoint injected through DIN, AFNOR and BSI, along with ANSI, as key players in the ISO environment, is a very, very useful mechanism. Secondly, I hope that during the discussions we'll hear about what is to be a major force in standardization today, namely, the consortia. There are more and more of them and less and less of us. I know international bodies like the IEC and the IEEE are addressing this question very aggressively, but there is increasing relevance of SDOs and of industry. I think any international strategy dealing with consortia is a key element to be considered so I hope you will. Thank you.

Mr. Gomez, the American Industrial Hygiene Association: for comment by anyone on the panel. I noticed in reviewing the participants' list that there are relatively few - with the exception, of course, of NIST - agency representatives present at this forum. In fact, some very important departments and agencies may be absent all together. I find that worrisome in the context of developing a national standards strategy.

Mr. Mazza: I didn't set the agenda. I think you're right that there ought to be more government participants here. I don't actually know who is from government. Maybe we should ask for a show of hands. How many people here are from a government agency? I think it is not quite as low as you say, but it may not be enough. Sometimes people think it's always too many, but it is what it is.

Mr. Pittle: I would echo your comments by saying that I'm not sure how many people are here from a consumer organization. I think relatively few, and if nothing else, there's probably not very many people out there who paid $185 out of their own pockets to come to this meeting. So getting consumer involvement is important. I'm thinking about the big tent. Let me stick with this for just a second. To summarize some of the earlier comments about using common requirements and having the standards harmonizable with other countries - they are using consumer input when they're developing their standards. We really come up short if we don't. Now we really ought to make that part of the first principles. The tent will be big enough.

Mr. Line: It may be worthwhile just to add that the gentleman's comment is well taken. I don't believe that it was ever the intent that today be the be-all and end-all of this, and I think that the published proceedings will drive a beautiful stake in the ground to proceed forward with other meetings and even a broader reaching out to other constituencies.

Mr. Mazza: I would like to point out that ANSI has consistently taken the approach that a standards strategy - in fact a standards system - should be private sector led and government supported, and I think that the purpose of this conference is to provide that leadership. That's not to exclude input from the government agencies. They are active in ANSI and constantly provide input and I know many of them have had input into the structure of this conference itself. NIST also has a role determined by legislation to really coordinate the input of the Federal Government into this process and that's the role they are playing today.

Roberta Breeden, Telecommunications Industry Association: My question is for Mr. Pittle. Sir, you talked about consumer participation in Europe and you mentioned that the participation is subsidized. Can you tell us please who provides the funding, is it government, SDOs or industry?

Mr. Pittle: It is provided both by the government as well as the EU that goes through ANEC, which has got a name about this long. It is something to do with the - wait a minute - here it is. It is the European Association for the Coordination of Consumers for Representation and Standardization - ANEC. But nonetheless, there's a recognition at that level that consumers should participate. They have funds to make sure that consumers are participating. They fund their travel and expenses. They do a lot more than provide a cup of coffee. They take it seriously. They see that there is a value, that if this is going to fly politically at home, they are going to have the people who are going to live with the results of the standards.

Nancy Steorts, former Chairman, Consumer Product Safety Commission, and Chairman of the Consumer Interest Council for ANSI: David, it's very nice to see you on this panel. It is good to have you back in Washington. My question is, my statement is, frankly it is very clear that the consumer is a very integral part of the national standards strategy and I think it's also been very clearly pointed out by you, David, that the consumer really has a very direct benefit from being involved in the standard. Could you speak specifically to the number one cause of one of the problems that we're facing, the issue of where do you find adequate consumer representatives, who are these consumer representatives, and then thirdly from your expertise, David, how do you think that they should be effectively funded so that they can participate in the process, be knowledgeable, be trained, and really be a very good value to the future strategy of the United States and standards?

Mr. Pittle: I didn't start out this way when I first went to the Commission, and I had the feeling that if they just let the government do it they wouldn't need these people, they don't know much, they drink a lot of coffee, they get in the way. But the fact is, that when we put out a public request for citizens and consumers to be involved, we got a flock of different interests that came in who were not economically involved in the production or sale of the product, people who had been researching - like a pediatric surgeon or someone who's been involved in burn reconstruction on the human body. I mean, they know a lot about the end results of hazards and injuries. They came forward and said that they wanted to participate in the way this final standard is written. In addition, you find groups of citizens, whether they're retirees or homemaker groups or just people off the street, who have had a personal interest in these things. They come forward and have to get out of their work life to come and participate, and that's always a conflict and tough, and that's why they need support. But when they come, they are actually quite reasonable, and they do make a statement about what is acceptable to them. If someone says that for the external surface temperature of an oven, all we can do is 180 degrees, I know the standard has been lowered, they might say well that produces a very bad burn to my kid if he touches it and I don't want this thing to go forward unless we can get it down to 155, which is what the standard is now. So you do need somebody there who is driven by something other than the very important but narrow economic interest of the outcome of the standard. Somebody's got to live with the results. That was when the Commission had to look at those problems, and when we saw that the consumers were involved with them; we stepped back and said

UL can handle it without us. So there are people out there - I don't have an e-mail list of them - but they're there and you just have to look for them.

Jim Beyreis, Underwriters Laboratories: If there is to be a national standards strategy or policy, it seems to me that Jim Thomas has raised a very interesting point, one which may be pivotal in this whole issue. Clearly there are those who advocate that the United States should work in a direction of adopting and applying and using ISO/IEC international standards. Jim, if I understand you correctly, one of the strong points, pitches, you made in your remarks is advocation of the promotion of adoption of U.S.-developed standards elsewhere in the world, and I think that that is an interesting question and certainly represents two very diametric directions that this whole matter can take. My question to Jim, though, is if we are to promote adoption of U.S. standards elsewhere in the world, how do we go about doing that, and maybe that is almost rhetorical given the limitation of time here, but let me leave it with you anyway.

Mr. Thomas: From the standpoint of the ISO and the direction of promoting the application and use of standards that may or may not be ISO, it's been our basic assumption that it's a marketplace decision, and that there are standards today, produced in organizations like ASTM and others, that have had broad-based global acceptance. They are used continuously to meet the marketplace needs of industry around the world. The ASTM committees have been opened and have benefitted from direct participation by companies outside the United States, and those standards should be given the opportunity and the consideration for use to fulfill the expectations of specific industries. My comment is more directed to those kinds of things that are done to try to give preference or give some kind of opportunity for a standard from a specific source to be the only standard that can be used, which does not allow the marketplace attention that is required to most standardization issues. So for me it is not about whether or not you've taken an ASTM standard and put it in ISO, whether you do something else, or whether you give it an ISO number or name. It really is more of a marketplace issue and the marketplace has to be given the freedom to make those choices, and right now I think that some of that decision-making is taken out of the hands of industries because there is a preference given and an understanding by some of our colleagues that "internationally" equates to "ISO, IEC and ITU," and we don't believe that's true.

Mr. Mazza: I'm sorry to have to cut off questions, but Deputy Secretary Mallett is here. I would invite those of you who still have questions to save them for other sessions and perhaps we'll be able to pick them up then. Thank you. Gentlemen thank you for your time and trouble.

Mr. Kammer's Introduction of Mr. Bachula and Mr. Bachula's Introduction of Mr. Mallett

Hello again. One of our primary goals here today is to hear from as many different points of view as we can about U.S. standards and practices and what's best, what's going to work, and what we can and cannot hope to accomplish. So the next session is going to feature the government perspective about standards. To introduce our morning's keynote speaker, I would like to call on Gary Bachula, the Acting Under Secretary of Commerce for Technology. Among his other responsibilities, Gary heads up the Commerce's Technology Administration. NIST is part of the Technology

Administration, so he's my boss. The National Technical Information Service is also contained here, along with the Office of Technology Policy and the Office of Air and Space Commercialization. Gary also spends a lot of time focusing on the Partnership for the Next Generation of Vehicles. With that, let me call on Gary Bachula.

Mr. Bachula: Thank you Ray. When Ray invited me to participate in this event and to introduce this morning's featured speaker I readily accepted. Not just because it is good office politics to introduce your boss any time you can. I also wanted to take a moment to add my own congratulations to ANSI for joining NIST and convening this historic meeting. I want to congratulate each and every one of you and your organizations for taking the time to deal with what I predict will be a very big issue in the years to come for American companies and for our economy. I've been listening to the discussions this morning and predict that they will get even more interesting as we go throughout the day. I expect to hear and learn more as this conference develops. The issue of standards policy is clearly moving higher on the public policy agenda, and will continue to do so in the future. Speaking of agendas, we are going to hear next from the second highest ranking official in the U.S. Department of Commerce, a government agency that knows how much standards really matter when it comes to trade and to our economy. Robert L. Mallett is the Deputy Secretary of the Commerce Department. He was nominated by President Clinton in June of 1997 and confirmed by the Senate a year ago this Saturday. Happy Anniversary! Deputy Secretary Mallett is the Chief Operating Officer of the Department. He oversees nine major agencies with 38,000 employees, a 5 billion dollar budget and a metric ton of issues ranging from the census to weather predictions, export controls, trade promotion, minority business development and the topic that I know he really enjoys and appreciates, Technology. He's a Magna Cum Laude graduate of Morehouse College, a graduate of the Harvard Law School, Phi Beta Kappa, and the London School of Economics. He was legal counselor for Senator Lloyd Benson, engaged in the private practice of law, and gained major management experience while serving as a City Administrator and Deputy Mayor for the nation's capital. Within the Department of Commerce in the past year, Robert Mallett has been a strong force for bringing together the agendas of the various bureaus and agencies of the department, particularly bringing together the agendas under trade and technology. This will not be the first time the Deputy Secretary has addressed the issue of standards policies and I suspect it will certainly not be the last because, as you will find out, he has some very strong points of view. It is my pleasure to introduce my friend and boss, the Deputy Secretary of Commerce, Robert Mallett.

Remarks by Commerce Deputy Secretary Robert L. Mallett
ANSI/NIST Standards Summit
Washington, D.C.
September 23, 1998

Good morning. This is Washington, so we are used to summits. Most of them are pretty dramatic affairs with lots of national media attention. Aren't we lucky? They don't know we're here!

This summit is different. It is the first of its kind. And it focuses on topics that rarely attract general media attention.

But it has the potential to make an awfully big difference to the economic future of the United States, and it will certainly affect prospects in the global marketplace.

So I want to express my appreciation for being invited to address this summit, and lend my voice to your efforts to develop a national standards strategy.

But I want to challenge you right up front. If you do nothing more than discuss the need for such a strategy, you - we - will have failed. We must work together, but we must do much more than *simply* work together!

In the next months, we must come up with an action agenda - set goals and reasonable targets that meet our unique needs.

We at the Commerce Department are only too familiar with the role of standards in opening up -- or closing -- markets for those who wish to sell products and services.

We also are fully aware that the U.S. standards system is unique in the world.

It has major strengths in its ability to bring all stakeholders together through the consensus process to forge standards in which all have ownership.

These consensus-developed standards are the envy of the world in terms of their technical content and the buy-in by all parties -- industry, government, standards developers, and consumers.

Our standards system's tremendous diversity, however, has made it difficult to gain national consensus on technical issues, particularly those which cut across sectors. It has also made it difficult for us to compete with more monolithic systems because our resources are spread too thin!

You well know that technical barriers to trade can put U.S. exporters at a tremendous disadvantage.

Conflicting standards, unnecessary testing and certification requirements, duplicative government regulations . . . these are the battlements that other nations are using to shield domestic companies from global competitors.

We are all aware of the strong role played by many other governments in their nation's standards development.

This entails not only strong financial backing, but also a large measure of governmental control and an emphasis on regulation rather than the marketplace.

We do not use this approach. We rely on our industry -- the people who need the standards to build their products -- to define and develop the standards.

The government participates in the process, but it is as one of the stakeholders; not as the driver of the process.

As a result, we find top-down, government driven approaches to standards troublesome.

And we have difficulty moving our technically-focused approach to deal with nationally- or politically-driven ones.

In short---we're in a pickle!

Now, this is a troubling state of affairs for U.S. industry and the Federal Government.

What on earth should we do?

Well, to begin with, let's define and articulate the goal. And we don't need a treatise to do that.

The overall goal is to get to a world in which U.S. products built and tested to global standards are accepted everywhere.

Of course, to reach this goal, we need a strategy.

And my department -- through NIST-- is serious about working with industry and private standards organizations like those represented here to develop a national standards strategy that reckons with the realities of the global economy.

Our unique, diverse approach makes it difficult to counter monolithic, cross-sectoral approaches, or develop global strategies, to complete successfully in the international arena.

To be honest, we -- and, by we, I mean the public sector *and* the private sector in the United States -- are already behind on this very important task.

Europe has a strategy and European governments and industries believe that they can create a competitive advantage in world markets by strongly influencing the content of international standards.

Just look at the success of European companies in South America, our Western Hemisphere neighbor.

In 1996, trade between the EU and the Mercosur countries -- Brazil, Argentina, Uruguay, and Paraguay -- topped the export-import volume for the United States and that regional trading bloc.

Between 1993 and 1996, Europe's trade with Mercosur grew 62 percent.

Not coincidentally, Germany, alone, has invested more than $40 million in Latin America to help countries build their measurement and standards infrastructure -- along the lines of Germany's technology infrastructure.

And Germany is not alone in this regard. The Europeans are influencing the standards question in inventive ways. So---while London, Paris, Bonn, and Rome plan and push, Washington punts! And we punt because we do not have a cohesive standards community.

How did we get into this predicament?

In the United States, we've allowed each sector -- information technology, telecommunications, automotive, medical devices, building technology, to name a few -- to develop its own standards -- because we know that each sector knows best what standards it needs to develop the best product.

The result is that over the past century or so, more than 450 standards development organizations--SDO's--have evolved to address the technical needs of specific U.S. industries or subsectors.

Some -- like the American Society for Mechanical Engineering (ASME), National Fire Protection Associations (NFPA), Institute of Electronics and Electrical Engineers (IEEE), and ASTM (formerly the American Society of Testing and Materials) -- have developed standards that are used in scores of nations.

These are flagship organizations. And the standards they develop are quite properly regarded as the best in the world.

U.S. SDO's operate according to balance, consensus, due process, openness and transparency -- principles by which sound standards are developed in the eyes of the United States and the WTO.

But no single U.S.-based SDO can claim the mantle of *international standards organization* - at least not in the eyes of most of the 130 nations that make up the WTO - and who often specify use of standards developed by international organizations in their laws.

Under ANSI leadership, the U.S. is active in many of the ISO and IEC committees and subcommittees. Furthermore, we are the single largest purchaser of ISO and IEC standards in the world.

Here, the American National Standards Institute (ANSI) represents the United States in both the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC).

Today, according to one estimate, international standards account for about 45 percent of the standards used by U.S. industry. In 1970, that share was about 10 percent; the vast majority of standards used by industry back then were in-house, corporate standards.

Despite these changes, and the growth in world trade, we approach international standards in an ad hoc, often hit-or-miss fashion, working diligently in some sectors, and totally ignoring others. Yet, if we don't set our minds to figuring out a way to counter the top-down, political approaches to standards practiced by many of our toughest competitors, we will not find our technology embedded in the standards of the future.

Now, please do not misunderstand me!

We are committed to maintaining the private sector approach to standards, but we are also committed to the idea that the numerous standards organizations must work together – to create a symphony, rather than cacophony!

At the moment, we in the Federal Government do not support U.S. SDO's effectively in the emerging markets of the world - often, I am told, because we cannot figure out whom we should support.

We cannot support 450 or 600 different entities all clamoring for attention - and so we find ourselves in danger of losing good U.S. technology in the standards used by the world.

Equally important, it is very difficult for us to work with the other nations of the world to make sure that ISO or IEC does not disadvantage some regions of the world.

We ask that you, working with NIST and ANSI, decide on the strategy that you wish us to follow - BUT - it cannot be to support 600 - or even 60 - diverse--discordant voices.

It is no wonder that the rest of the world is confused - and dismisses our efforts!

As Ray Kammer has met with many of you in preparation for the summit, he has heard that most of you are working with ISO and IEC, some more strategically than others.

And that some sectors have been very effective in being sure that a U.S. voice was strong, coherent - and most importantly - present in appropriate international standards-setting activities.

But - this doesn't occur consistently; and in some cases we work against ourselves....

U.S. industry leaders should have more than a passing interest in the development of global standards. Global standards will dictate our access to global markets and our relationships with foreign suppliers and customers.

And, obviously, standards used globally will influence the nature of new product development. Some U.S. companies and organizations -- those in this room today, for instance -- are acutely aware of the strategic importance of international standards issues.

The great majority are not. These companies are surrendering decision-making authority on standards to their better organized foreign competitors. This needs to change.

Getting organized is a key first step for our peculiarly American standards system. Unlike most other nations, the United States does not have a single private-sector organization or government agency that has overriding responsibility for standards.

NOR do we want one!

But we DO want to facilitate your efforts to work together. U.S. industry, SDO's, and government must work together with ANSI to shape the international standards framework and level the international playing field for all.

We know that SDOs face serious problems in taking U.S. standards to ISO and IEC, because they lose revenue and responsibility for their intellectual property.

These problems are very real.

Yet, there is pressure from industry around the world for standards that are truly global. In groups such as the TransAtlantic Business Dialogue, industry reiterates the desire for one standard, used worldwide.

They also want standards available quickly in response to market pressures of all sorts. Sometimes they turn to consortia to develop them faster -- and then fast track them through more formal organizations.

They request standards that are freely available on the Internet -- something that one European SDO is considering as well.

Our SDO's are not well positioned to deal with this challenge - and yet, from a technology perspective, we might actually wish to pay people to use our standards....

Or at least have them readily available on the Internet! That way, at least, we have a fighting chance to develop and maintain market share for our products.

All these pressures bear upon the U.S. standards community. Yet, our success in building sound technical standards that are used around the world should enable us to work together to sort through the troubling financial and ownership questions that we face.

Each group of stakeholders has its own set of issues and problems -- but by coming together to forge national approaches, we can ensure that we are leaders, not bystanders, on the global standards scene.

Our splintered efforts weaken the voice of business and disadvantages consumers.

The Commerce Department intends to be a catalyst in mobilizing private sector and Federal actions, through activities such as this summit, that will end this costly inertia and confusion. And there has been progress.

NIST and ANSI are spearheading efforts to streamline conformity assessment and laboratory accreditation procedures - to eliminate non-value-added, duplicative testing, and to broaden international acceptance of test results.

With ANSI, industry, and SDOs, NIST has provided intensive standards training to more than 400 people, mostly from Latin America, Russia, and the Newly Independent States of the former Soviet Union.

In fact, a delegation from Central American countries is with us today!

NIST's standards experts are in five markets: the European Union, Mexico, Brazil, Saudi Arabia, and India - they advise industry of potential barriers and work on standards-related issues.

We believe that a strong and effective ANSI is key to future success of U.S. industry in the world market.

Its strength, however, must include reliance on the output and support of its SDO stakeholder members, as well as effective marshaling of appropriate industry and other technical experts for key international standards committees.

I ask that you keep a few key elements in mind during your discussions today:

--Come together to develop an effective approach under ANSI leadership to level the international playing field so that no single region is disadvantaged.

--Strengthen the international technical position of the United States through coordinated initiatives on standards and technical barriers to trade.

--Enhance the competitiveness of U.S. companies, including small businesses, that rely on standards by promoting the acceptance and use of internationally-recognized standards.

--Improve technical assistance programs to advance international standards development and enhance U.S.-foreign technical cooperation.

That is an action agenda.

And it's one where we've made some important progress, including hosting this summit. Today, the United States is the world's most prolific exporter, its strongest competitor, and its best innovator.

Yet, we are jeopardizing our leadership position -- and, perhaps, future economic growth -- by not paying full attention to important details of international trade: measurements, standards, laboratory accreditation.

If we do not, we may discover someday in the future that the "devil truly was in the details."

Industry and government, working as partners, must act aggressively and intelligently to advance U.S. technologies and concepts as the basis for international standards.

That includes each and every one of you in this room. We cannot risk the prospect that our products and our companies will be locked out of future markets.

The opportunity for continued strong growth -- and future prosperity -- is ours to realize.

I challenge you to work together here -- and after you leave -- through ANSI, with appropriate government support, to forge national strategies so that the best of our standards system can be preserved and exported around the globe.

This is a *national* challenge....and I urge you to embrace it ----with great passion!

Thank you.

Question and Answer Period

Mr. Bachula: Perhaps we could have a few questions if people would like to share their thoughts with Robert.

Questioner: Yes, earlier someone addressed the issue of non-metrification in the United States. What is the Commerce Department doing, if anything, to encourage metrification and a more broad use of metrification in the United States?

Mr. Mallett: At the TABD meeting in Rome last year, the issue of metrification did come up. At the TABD, it was an issue that our small businesses were particularly challenged by and did not greet the proposal for that in an embracing manner. The issue was put off until the next TABD meeting, which will be in Charlotte, North Carolina - I think in November of this year. It is obviously an issue that has received varying degrees of support and discussion at the national

level in our own Congress. I do know that NIST has an initiative in this regard, but it seems to me that it is not an issue for which we have developed any level of consensus at the national level, and it has been very difficult to become united in our voices when we are in various international arenas on that issue. I wish I had a better answer, but that's where we are.

June Ling, ASME: We had the great pleasure of having you speak last April at the ASME summit on the same issues of standards and international trade with which you've challenged us today, and I hope that we will rise to the challenge; you gave us great insights. One question I have - and I may be too specific for this venue - is how can the Department of Commerce assist U.S. industry and the standards developing organizations? You've clearly identified two paths: one is the technical path and one is the political path, and if we do our job in the technical path - for instance, ASME is currently working on trying to get material that is produced to U.S. standards accepted under the European directives - and in order to achieve that I think we will need the assistance of Commerce and USTR - should the technical excellence or the technical path not prevail under the administrative requirements of the European Pressure Equipment Directive, will your office be in a position to assist U.S. industry and U.S. standards developing organizations should we run into difficulty on a non-technical issue, but in the administrative framework of regional and national standards systems?

Mr. Mallett: I certainly hope so! I mean, that is what we are hired for, and if we are not willing to do that, you ought to kick us out, and I believe that very strongly. Now that may not be the most politically correct answer, and they may tell me that I shouldn't have said it when I go back to the Department because there is some reason why we can't do that and the lawyers will get all upset. If we don't do that - if we can't help you in that arena where we are supposed to be preeminent - then we are not doing our jobs, and I just have to say that if that is the wrong answer, you all have to come up with a better one, but we are certainly prepared to go to bat for you. That's what we're supposed to be doing. Thank you, you can tell me later.

Mr. Bachula: OK, we can take one more question.

Mike Turnbow, American Society for Non-Destructive Testing: I must say that June took a lot of my thunder, but I have one little piece I would like to ask about in the same light that June was indicating. Of course, we all support the idea of ANSI taking leadership and us pulling together in alliance to make all of this happen, but at the same time, this process is moving very fast in Europe, and the Vienna agreement is in place. As was said this morning, our government has bought in, or agreed to support, the ISO process. Now isn't that one of the ultimate priorities that should be approached immediately, to affect that agreement - that Vienna agreement - so that while we are working on the technical issues the playing field can be leveled simultaneously? I'm through.

Mr. Mallett: No, I was just thinking. I learned when I first came to Washington to put the thought process in gear before the mouth went into motion. Well, obviously, that sequencing is right, yes it does seem right. I don't think we can waste any time getting ourselves prepared to be more aggressive and vigorous with the Europeans on the standards issue. Endorsement of the ISO process is important - it's critical, and I think that the sequencing that you suggested is

probably correct. What I am concerned about, though, is that we will forget what our priorities ought to be and we will leave this conference in general agreement that something is wrong and something should be done, but no real strategy for bringing ourselves together to speak with a strong voice. I am hopeful that your work here today, and your work following these meetings, will not leave us defenseless in that regard, so I think your point is well taken.

Mr. Bachula: Thank you very much, Robert, for coming here and speaking with us. Thank you very much.

Mr. Mallett: Thank you very much for welcoming me.

Mr. Kammer's Introduction of the Second Panel

The title of this session is "Getting the Best of U.S. Technology into Standards," and this is a very important issue for us. The U.S. economy is the largest and most vibrant economy in the world. Fueling our economy is constant innovation of technology that gets incorporated into new products. With 12 percent of our economy now fueled by exports out of our 8 trillion dollar economy, manufacturers, in order to be competitive, find that they have to be able to make one world product that they sell in the United States and also sell outside our borders. To succeed in having a global product means that there has to be one standard that governs the product, and for us to succeed that standard has to include U.S. technology. Many manufacturers that I have talked with tell me that they are not particularly concerned about getting an advantage in the course of writing standards, they simply do not want to be disadvantaged. This is the level playing field that we have talked about many times.

We have some very distinguished speakers here this morning who will each speak for eight minutes. I'm going to say their names and titles now and will call their names in turn when it's time for them to speak. George Arnold is the Standards and Intellectual Property Director for Lucent Technologies; Helen Delaney was until recently the Standards Attaché and First Secretary to the U.S. Mission to the European Union; Gene Feigel is Vice President, Engineering, The Hartford Steam Boiler Inspection and Insurance Company and Senior Vice President, American Society of Mechanical Engineers; Ron Reimer is Corporate Manager, Industry Standards and Product Relations, Rockwell Automation, Allen-Bradley Company, and Chairman, U.S. National Committee of the International Electrotechnical Commission; Gerald Ritterbusch is the Director, Standards and Regulations, Caterpillar, Inc.; and Michael Schagrin is the Standards Program Manager, Intelligent Transportation Systems Joint Program Office, U. S. Department of Transportation. George Arnold will be our first speaker for eight minutes.

Global Standards and the US: a Telecom Perspective

George W. Arnold
Director, Standards and Intellectual Property
Lucent Technologies

Introduction

The Telecom industry is one of the largest sectors of the global economy, representing over $620 billion per year in service revenues worldwide. For the US alone, telecom equipment and services represented over $320 billion in 1997. Worldwide, the industry is in the midst of a revolution – communications and information technologies are converging, de-regulation and privatization are occurring all over the world, and mergers and alliances are changing the business landscape.

The standards community has also become swept up in this revolution. Standards are no longer just the arcane province of the techies – the subject is now getting attention in industry boardrooms and Congress. In 1997 a landmark agreement – the Information Technology Agreement – set in motion the eventual elimination of tariffs as a barrier to trade for information technology and telecommunications products. As a result, there is understandable concern on the part of policymakers that non-tariff measures, such as standards and regulatory policy, could arise to create new barriers to trade.

The World Trade Organization provides a very sound prescription to avoid such barriers: the use of international or global standards. In the telecommunications field, global standards have always been important as way to ensure interoperability, but now they assume even greater importance as a way to ensure open and fair international trade. As the industry moves to rely more and more on global, rather than national or regional standards, the question posed by the NIST/ANSI Summit Conference becomes especially relevant and timely: how can the US ensure that global standards appropriately reflect the contributions of its technology? Other technologically advanced nations and regions, which also play an essential role in advancing the technology of the industry, are asking the same question, and the answers are equally applicable. All countries can benefit by learning from each other and sharing best practices.

How Can the US Ensure Global Standards reflect its Contributions?

The answer to the question has three parts, as follows:

1. US organizations must continue to be very active participants and contributors to the international standards organizations in the telecommunications industry,
2. US organizations must also seek to forge stronger partnerships with counterpart national and regional standards organizations in other parts of the world, and
3. US-based standards organizations need to make their information much easier to access electronically, at lower cost, especially to developing countries who are studying their future standards needs

Continue active participation in international standards organizations

The US has a rather good story to tell concerning its participation in international standards bodies. Most would agree that today, the ITU – the International Telecommunication Union – is the pre-eminent de jure standards body in the telecom industry at the international level. The extent of US participation in the ITU is easy to measure. Of the 327 industrial organizations and network operators who are members of the ITU standardization sector, 100 of them are US companies. This is far more than the second largest country – the UK – which has 27 sector members. The US alone has almost as many sectors members in the ITU as does the European Union combined, with 125 members, or the rest of the world, which has 102 members. Clearly, the US commits significant resources to the development of international standards. Furthermore, the US has enjoyed a very good track record in gaining acceptance for its contributions to ITU standards.

The ITU, of course, is not the whole story when it comes to international standards organizations. There are dozens of other de facto and de jure standards organizations that operate at the global level and produce standards of importance to telecommunications. Here too, one finds that US industry is well positioned.

A very important example of these other organizations is the IETF – the Internet Engineering Task Force. Through its broad global participation and efficient processes, the IETF has been extremely successful in developing the standards that have allowed the Internet to flourish. As the convergence of data and voice networks continues, the IETF will play a growing important role as another cornerstone of the international standards process for the industry. US industry participates most actively in the IETF, and has enjoyed a good track record in producing standards that reflect US contributions. It should also be noted that other parts of the world have made fundamental and well-recognized contributions to the IETF's work as well. For example, the standards which enabled the World-Wide Web to mushroom had their origins in CERN in Switzerland, and the chairman of the Internet Architecture Board which is guiding the Internet standards program is from the UK.

Forge stronger partnerships with counterpart national and regional organizations

US telecom standards organizations must continue to forge stronger partnerships with counterpart organizations at the national and regional level in other parts of the world. The US has some catching up to do in this area. However, it should be noted that the ANSI Federation has recognized this need and has shown strong leadership in reaching out to form these new partnerships.

Recent initiatives of ETSI – The European Telecommunications Standards Institute – provide a good example of how such partnerships can be created to accelerate the development of global standards. ETSI has shown leadership in reaching out to counterpart organizations in the US, Japan, Korea, China, and elsewhere to participate in its work program. In the hot area of 3rd generation wireless systems, a focused partnership project involving ETSI, Japan, Korea and US standards committee T1, is being organized to accelerate the development of global technical specifications for the evolution of GSM (Global System for Mobile communication), which is one of the standards used in the US.

This collaboration has been defined to complement, not duplicate work done in the ITU. The ITU has recognized that a family of 3rd generation standards, rather than a single standard, will be needed to address diverse global requirements for 3rd generation wireless systems. Delegating some of the specification work to such multi-lateral partnerships provides an efficient division of labor while aiming for global applicability of the resulting specifications.

The ANSI Federation, recognizing the potential of this approach, has led discussions with ETSI, the telecom standards organizations of Japan and Korea, and other countries, to broaden the partnership approach to fully address US and global interests. As a result of a very favorable response from other countries, a partnership project to develop 3rd generation global specifications for the other major globally-deployed wireless architecture – ANSI/TIA/EIA-41 – is being organized with international participation in parallel with the GSM effort.

Such partnerships are a promising way to address industry's need to have global standards to meet diverse needs, while having an efficient division of labor among national, regional and international organizations to speed their development. They provide an additional, and effective way for the US to ensure that standards used world-wide reflect the state of technology in the United States.

Make standards information more accessible globally at lower cost to users

The standards organizations serving the US telecom industry have been at the forefront of embracing web-based technology. The standards development process in the US is the most advanced in the world in its use of e-mail, electronic collaboration and web-based technology. Users anywhere in the world have open and free access to meeting information, working documents, and drafts.

Electronic access to published standards is a mixed story, however. An engineer looking for a standard produced by the IETF or ETSI, I can go to their web sites and obtain published standards in real-time for free from anywhere in the world. The ITU also provides a convenient on-line service, although it is not free. For some ANSI-accredited telecom standards, one can go to the ANSI web site, give a credit card number, pay something between $15 and $150 depending on the standard, and download it in real time onto a PC. TIA standards can also be accessed on-line from a different web site upon negotiation of an annual subscription, otherwise they can be electronically ordered for delivery by mail in media such as paper documents or CD-ROMs. None of these methods is as

convenient as access to IETF or ETSI standards, but large companies find ways to deal with it by negotiating license agreements for internal distribution on their intranets.

However, consider the situation of an engineer working on standards in the Telecommunications Academy of a developing country. She may want to study what specifications the US has developed in a particular area of interest. She probably has access to e-mail and the web. But she probably does not have a corporate credit card, as her US counterparts might, to order standards on-line. And what sort of approval would she need to spend $150 – a week's salary, maybe, to buy that standard? What sort of approval would be needed to spend $5000 to order a CD-ROM with the whole collection of standards that are of interest? From her perspective, getting access to US standards is not easy at all. So she is probably not going to become as knowledgeable about US technology as the technology in standards that are more easily available to her.

The standards development organizations and ANSI need to be assured of a revenue stream so they can continue to perform the vitally important functions they do today. For the telecom standards organizations, sale of standards documents represents an annual revenue stream of several million dollars. But for US industry in 1997, exports of telecommunications equipment were a $21 billion revenue stream. It is not in industry's interest to have any impediment to other countries' ability to access standards information. The US standards community must work together to solve the problem of making US standards information easily accessible at low cost from the end user's perspective, particularly to developing countries.

Conclusions

Global standards for the telecommunications industry have become more important than ever, not only for their traditional role in ensuring interoperability, but also to facilitate international trade. To ensure that International Standards reflect the contributions of US technology requires active participation in and collaboration with the appropriate organizations of other nations at the national and regional as well as international levels. Furthermore, we must ensure that while we fund the facilitating standards infrastructure we not let the standards publication business become an impediment to the product and service businesses that they support. To put the standards business first is to kill the goose that lays the golden eggs.

Toward a National Standards Strategy to Meet Global Needs

The International Trade Center
Ronald Reagan Building
Washington, D.C.
September 23, 1998

Standards: The U.S. and the EU: Another Bridge to Cross

by
Helen Delaney

The United States and the European Union make up the largest and most important business partnership in the world. Business and political leaders have imprinted this relationship with such epithets as the New Transatlantic Agenda, the Transatlantic Business Dialogue, and the Transatlantic Economic Partnership. These terms symbolize the great efforts both sides have made to strengthen our ties, open our markets, eliminate barriers, and improve our trade.

While our partnership is close, it is not simple, nor is it always easy. Although they have been impressive at the end, our trade agreements have been hard-won. We have argued bitterly with one another. We have walked away in frustration more than once before coming to terms. Through it all we were challenged by the specter that haunts many relationships -- the fear of losing oneself to the other.

We have so much in common. We are market-driven democracies, and a federation of states. We share heritage. Our laws prescribe common objectives: health, safety, and a clean environment. Our standards are developed voluntarily, by consensus, to complete these laws and to make our products fit to sell to one another. Why, then, despite these commonalities, have standards come to serve as irritants, disrupters, and defenses to be used against one another? Because in many product sectors, standards can only reflect native or provincial investments. When this is the case, they become powerful, but parochial expressions of industrial capabilities.

One Individual's Perspective

For three years, my job as Standards Officer at the U.S. Mission to the European Union was to counsel U.S. companies. In many cases, their access to the European market was threatened or denied by a "voluntary" standard. It is ironic

that, in an era of increased cooperation and intensified partnering, we should see an increase in this type of market access problem.

The dilemma lies in two fundamental aspects of European standardization: a closed standards system, and the presumption of conformity the law confers upon the European Harmonized Standard. Much has been said about Europe's closed standards system, and I will not repeat it all here. I will note in contrast that European companies, whether or not they have U.S. subsidiaries, have access to the American voluntary consensus standards writing process.

European technology is regularly accepted into American standards, and European companies through these standards, can and do influence the technical regulations of the United States. U.S. technical experts, on the other hand, cannot enjoy the same rights in Europe unless they can prove that they are "European" by manufacturing in Europe or otherwise contributing to the economy, providing jobs and income. U.S. loss of market access due to voluntary standards is on the rise in Europe, and forced investment is not the answer. The closed membership rule in standards organizations protects European businesses from foreign competition.

Presumption of Conformity

Meanwhile, European law adds to that protection by bestowing upon the European Harmonized Standard an *imprimatur* known as the presumption of conformity. Manufacturers using a European Harmonized Standard to make or test a product need no further proof that their products are in compliance with a New Approach law. They may mark their products with the CE mark (the symbol indicating compliance with essential requirements) and, in all but a few cases, place them directly on the European market. No other standard, no matter how well it may comply with European law, can give a product the presumption of conformity. The European Commission is the final authority that says the European Harmonized Standard, to the exclusion of all others (except in a few cases where ISO standards reflect European requirements), is the only one reliable enough - on its own - to make the product safe. If you are a U.S. manufacturer whose product has been excluded from coverage under the European standard by a technical committee, you are in a serious situation.

How Voluntary is Voluntary?

The lawmakers reasoned that, since European Harmonized Standards were voluntary, third country manufacturers (like U.S. manufacturers) had other options, that they were free to use alternate standards. But how voluntary do voluntary standards turn out to be? And at what cost are manufacturers free to choose alternatives? When insurance companies, architects, bankers, and other market players refused or were prohibited by state law from endorsing a product made to

anything else but a European standard, it became clear. Voluntary was not so voluntary.

Conclusion

It is time to seek a solution to this situation which is becoming increasingly intolerable to U.S. manufacturers. The presumption that only a European Harmonized Standard can meet essential requirements is one that we need to examine seriously. I don't think anyone would challenge the notion that a society that can put a man on the moon can also produce a standard that will meet European safety requirements for roofing shingles.

I am encouraged greatly by informal conversations I have had with my professional colleagues in private sector European standards organizations. They agree with me that we need to ease the tensions between us, to find a way to settle our standards disputes, and, through our technical experts, discuss the equivalence of our standards.

Equivalence of standards is not a new notion, but perhaps the time to discuss it has been ripe till now. The United States is embarking on the development of a National Standards Strategy, and I can think of no better time than now to encourage this or any other idea that will lead us to a *rapprochement* with our European partners. With an open standards system on the U.S. side and the presumption of conformity conferred on U.S. standards that satisfy European essential requirements, we can restore equilibrium between us. We can go forward to a better trade relationship and the elimination of standards disputes.

National Standards Strategy Summit

Washington D.C.
September 23, 1998

Richard E. Feigel, Ph.D.
Senior Vice President, ASME International
Vice President Engineering, The Hartford Steam Boiler Inspection & Insurance Co.

The following comments are made on behalf of The American Society of Mechanical Engineers (ASME), a professional society with over 120,000 members in the US and worldwide. ASME is dedicated to the advancement of the arts and sciences related to the field of mechanical engineering. In that role, ASME develops over six hundred technical standards and administers accreditation and certification programs for manufacturers of equipment produced to ASME standards as well as personnel certification programs in a number of fields. Standards developed by ASME range from heavy capital plant equipment such as boilers and pressure vessels to equipment performance standards, metrology and a broad spectrum of equipment safety standards. Historically, US regulatory agencies, both federal and state, have relied heavily on ASME standards as the basis of safety regulations. Also, many ASME standards continue to be de facto international standards, recognized as the principal, or at least acceptable means of satisfying safety regulation and trade needs throughout much of the world. Consequently, US industry has a substantial intellectual and commercial investment in the development, maintenance and use of ASME standards. ASME has issued a position representing its interests as a major standards developing organization, as well as the interests of large number of users of its standards worldwide. This position paper is incorporated into these comments by reference.

Standards have a major impact of international commerce in all forms. Historically, standards have affected trade in products and basic services. Today, the reach of standards' impact extends to a multiplicity of areas including products, services and their underlying intellectual foundations. The increased pace of international trade coupled with the expansion of standards into new arenas affects US industry in new ways and affects industries which traditionally have been immune to these issues.

Any US strategy and supporting policies encouraging strong US technical participation and input into international standards must be founded on several key cornerstones. Technical excellence, driven by realistic business needs, should be the fundamental benchmark. While expediency in standards development and a "single product, single standard" approach may appear attractive, in most cases, pursuit of this strategy will disadvantage US industry in the long term. Specifically, the US' sole potential advantage in many fields is based on our technical leadership. Strategies to promote continued acceptance of US technology must encompass much more than the formal process of trade negotiation and standards development. The three principal stakeholders in the current US standards management process - industry, standards developing organizations (SDOs) and government should be encouraged to focus and coordinate as follows:

1. Industry
   a) Clearly incorporate standards management as a strategic business issue.
   b) Approach standards development on a sector by sector basis. The complexity of different markets must be considered. Different and sometimes incongruent issues must be balanced. The attractiveness and apparent market support of a

single international standard must be balanced with the ability of the developing infrastructure to accommodate timely revisions dictated by technological change and shifting business practices.

c) Insist on standards which conform to integrated business practice. This is especially critical for sophisticated standards for large systems, such as refinery equipment, where the equipment manufacturer cannot be held solely responsible for system performance without appropriate system operating input from the operator. ISO and other standards which often promote arbitrary divisions and gaps between responsible parties are counterproductive.

2. Standards Developers
   a) Assure that existing processes are open, transparent and provide for effective due process.
   b) Strongly promote international participation in their standards development activities.
   c) Streamline administrative processes as much as possible within the limits of assuring continued technical excellence and due process.
   d) Commit to proactively adopting appropriate technological advances.
   e) Openly communicate with stakeholders.
   f) Openly embrace cost/benefit tests for new and revised standards.
3. Government
   a) Promote use of US based standards through support of international technical and educational efforts.
   b) Address regulatory balkanization between federal agencies and state regulatory authorities.
   c) Consider private sector standards development costs as R&D for tax purposes. This would provide important national support for an industrial strategy developed and managed by the private sector benefiting US jobs and competitiveness.

I would like to conclude with a few additional comments representing the views of a major insurer of mechanical and related equipment. My employer, Hartford Steam Boiler (HSB) Group, is engaged in international business in a variety if ways. Our largest subsidiary, The Hartford Steam Boiler Inspection and Insurance Company, was formed in 1866 as an insurer of steam boilers, a key development which forged the basis for the industrial revolutions in Europe and North America. Today, HSB remains the largest insurer of power generation facilities in the US, as well as providing insurance, risk management and engineering services in all significant industrial sectors. A sister company is engaged in similar businesses worldwide. While insurers such as HSB neither directly manufacture, distribute or use critical industrial equipment, we have a substantial financial interest in the cost, function and availability of the equipment we insure. Not totally facetiously, we can claim that we spend more on heavy equipment each year through paid insurance claims than most of the industries we insure. By the very nature of our business, my company and its competitors have a significant stake in assuring sound standards are employed in the manufacture and use of the equipment and systems we insure.

In fact, this concern extends well beyond standards for critical components and systems. Our industry has long recognized, and continues to refine its understanding of, the importance of human factors and management systems in assuring the safe and efficient use of equipment in

power plants, refineries, hospitals and similar facilities. Promoting the incorporation of best practices into international standards is an important strategic issue for HSB.

We urge federal agencies to work closely with SDOs to develop strategies to promote incorporation of advanced US technology in international standards. Trade associations and other legitimate stakeholders must be incorporated in any overall strategy. This is a dynamic process which will require different strategies for different industries. Sector by sector strategies are important. Similarly, tactics and underlying strategies must be dynamic, reflecting altering political alliances and underlying technical developments.

Finally, HSB strongly supports rational cost benefit tests for international standards development. In addition to the specific recommendations noted above, well accepted principles of risk analysis should be incorporated into US SDO standards development practices. We believe a coherent national strategy of standards development founded on risk based methods is the cornerstone to assuring US leadership in incorporating the best specific US technology into international standards. The sheer weight of US technology is not sufficient to prevail in increasingly sophisticated international markets. Currently, European regulations and standards development appear to lead in incorporating risk based principles. If the US is to retain its leadership position, adoption of advanced methods which consider commercial, regulatory and overall societal interests is of paramount importance. This will require considerable political will as well as commitment on the part of industry to embrace rigorous methods to balance interests of all stakeholders.

National Standards Strategy Summit

Richard E. Feigel, Ph.D.
Senior Vice President, ASME International
Vice President, Hartford Steam Boiler

Standards Cornerstones

- Technical Excellence
- Business Driven Strategy
- Sectoral Based Strategy

Industry Initiatives

- Standards as business driven strategy
- Sectoral strategy
- Standards should reflect business practice

ASME International

SDO Initiatives

- Open processes
- International participation
- Streamline processes
- Commit to technical advances
- Open communications
- Use cost/benefit criteria

ASME International

Government Initiatives

- Support education in US technology
- Reduce 'balkanization'
- Provide appropriate funding support for US efforts

ASME International

Critical Technical Strategies

- Risk based management methods
- Life cycle cost and safety analysis
- Human factors

ASME International

Getting the Best of US Technology into IEC Standards

Ronald H. Reimer
President of the USNC/IEC

Rockwell Automation
United States Of America

September 23, 1998
ANSI / NIST
Towards a National Standards Strategy to Meet Global Needs

Rockwell
Electronic Controls and Communications

USNC The US National Committee of IEC

ANSI American National Standards Institute

IEC Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

Agenda

Getting the Best of US Technology into IEC Standards

- **The Role of the USNC -**

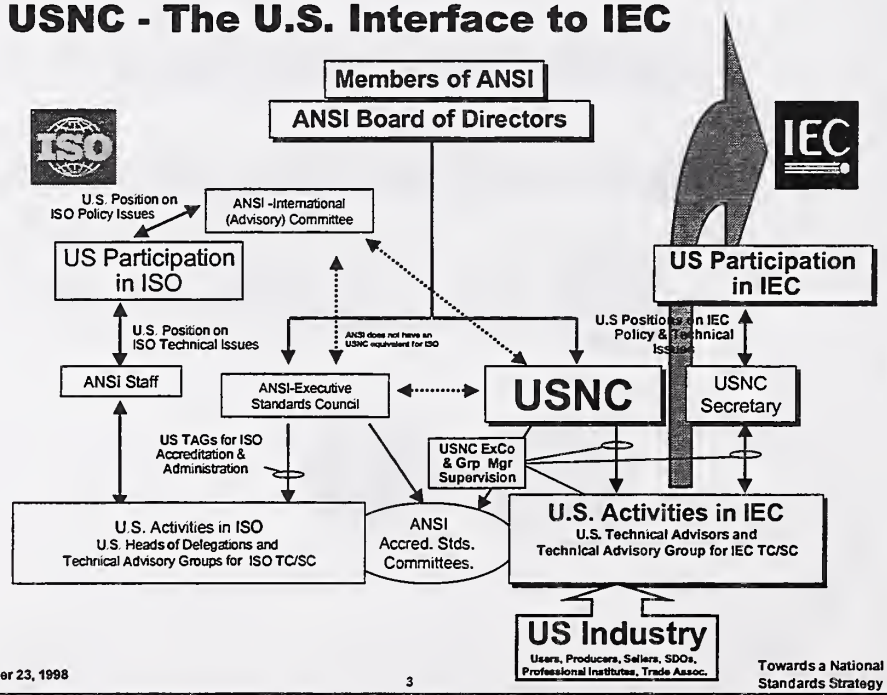
  How does the US interface to IEC

- **Why Bother -**

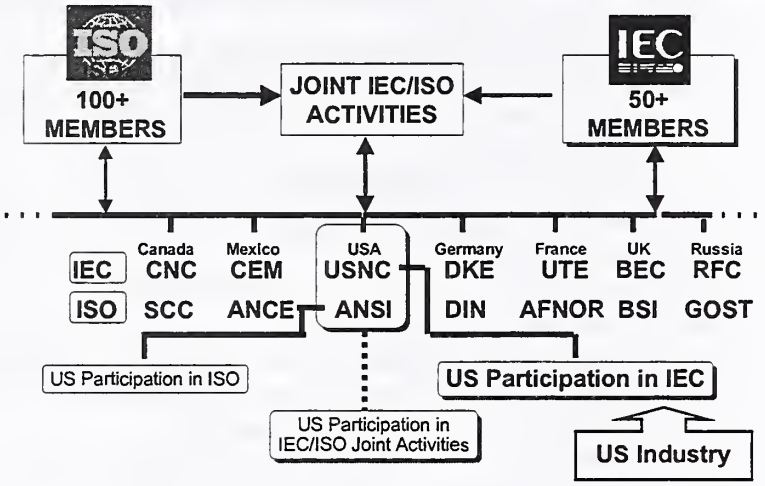
  Benefits of Participation

- **Some Key Trends & Forces**
- **Future Roles - -**
  - **IEC**
  - **ANSI**
  - **NIST**

USNC - The U.S. Interface to IEC



U.S. Participation in IEC - Comparison with Other Countries



Agenda

Getting the Best of US Technology into IEC Standards

- The Role of the USNC -

  How does the US interface to IEC

- Why Bother -

  Importance of US Technology In Standards

- Some Key Trends & Forces
- Future Roles - -
  - IEC
  - ANSI
  - NIST

Important Benefits

Important benefits available only when, through successful participation in the standards and certification process, US Technology gets into standards

- Uninterrupted product flow
- Prevent product obsolesce through inability to sell
- Determine the content of the standard by influencing the definition of:
  - Actual content
  - Intended purpose
  - Conformance criteria - Certification
- Early warning
- Technology transfer
- Market cooperation
- Rate of standards development
- And, as described in to IEC/ISO Guide 2, determine the attributes of the standard by influencing standard content on subjects of –
  - Variety control
  - Interchangeability
  - Compatibility
  - Economic performance, Usability
  - Mutual understanding
  - Trade, removal of NTBT
  - Protection of the environment, Health and Safety

Why Standards

- Standards are important because of their role in commerce
- One Standard - one test - one mark
  - One "international accepted" standard
  - One test means executed once, accepted everywhere
  - One Mark requires certification records be maintained in a public file, may also be on/with the product
- WTO definition of International Standards
  - Time Now
    - Definition must be by the use in trade
    - IEC, ISO & ITU are not the exclusive standards used in trade
    - Single standard solutions do not reflect trade reality

Agenda

Getting the Best of US Technology into IEC Standards

- The Role of the USNC -

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  Benefits of Participation
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- Future Roles - -
  - IEC
  - ANSI
  - NIST

Some Key Trends & Forces

- Product Technology Changes
  - Merging Technologies
    - Integrate control and information
    - Integrate communications - -LAN/WAN wire and wireless
  - Focus shifting from products to solutions
  - Expanding - Open System and System Accessibility
- Product Regulations & Market Needs
  - Intentional restriction of Conformity Marks availability
  - Trade Agreements and Customs Unions controlling product flow
  - "Worse regional case" will become global minimum
  - PAC-Rim and LA are maturing their regulatory systems

Some Key Trends & Forces

- Regionalization of Trade is increasing (representative listing):
  - Mega-Regions: APEC, FTAA

  - Multi-National Regions: EU, MERCOSUR, ASEAN, NAFTA

  - Inter-regional Agreements: MERCOSUR and EU

Some Key Trends & Forces

- Increasing Demand for Bilateral (trade) Agreements
  - Most common is the recognition of certification systems MRAs that attest to conformance to Standards
  - Only in EU under regional control
  - Many use template (e.g., APEC)
- Proliferation of 3rd-party Certification
  - Proliferation of regional/international accreditors of certification schemes
  - Proliferation of national 3rd-party certification schemes
  - Proliferation of national product conformance marks

Agenda

Getting the Best of US Technology into IEC Standards

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Future Roles - Some Premises

- Standards are a trade issue
  - Technology is documented (specified) in the Standards
  - Standard Used-in-Trade Defines the Technology Traded
- Need one international electrotechnical standard
  - One-Product, One-Standard, One-Test, One-Mark
- Regional requirements must not define the only International Standard

IEC Role

Getting the Best of US Technology into IEC Standards

- IEC Continues to be (perceived) as Euro-Centric

  Problem for Non-European Countries Not Just for IEC

- IEC to become the globally relevant SDO - QUICKLY
  - Until it is - as a stepping stone - - Why can't the IEC adopt the de jure and de factio standards existing in other nations and regions of the world?
- IEC voting rights need to be decoupled from dues categories - not just rich countries vote
- IEC dues determination needs to be revised
- IEC languages

IEC Role

Getting the Best of US Technology into IEC Standards

- IEC needs to sell the new Limited Consensus Standards
  - Industry TechnicalAgreements (ITAs)
  - Publicly Available Specifications (PAS)
  - Too closely coupled to the traditional, product oriented IEC TC/SC structure to attract "outsiders"
- IEC President's Advisory Committee on Technology
- Continue IEC Reorganization - Re-engineering
  - Operations are now two - -
    - Technical via the Committee of Action
    - Conformity Assessment via the New CAB
  - Trim down more, still too much between the Council and the Working Groups and along the sides.

ANSI Role

Getting the Best of US Technology into IEC Standards

- ANSI Influence its peer organizations to become full voting and participating members of IEC
- Arrange itself for recognition as the US standards umbrella organization
- Secure its financial future

US Government Role

Getting the Best of US Technology into IEC Standards

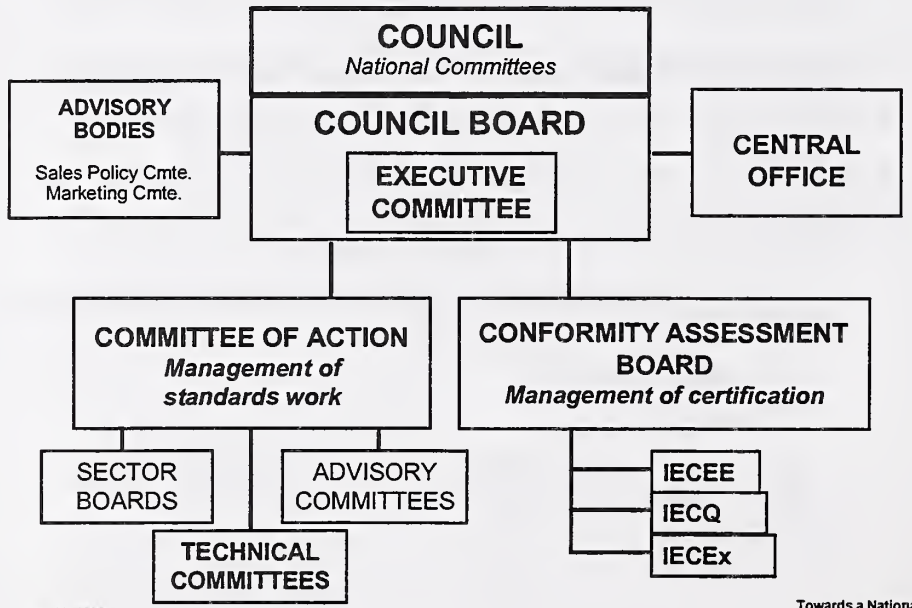
- Become more active in insuring US presence in IEC
- ANSI as the US Standards umbrella organization
- USNC/ANSI as the official US interface to IEC
- Government assistance - on the IEC Side
  - Continued cooperative working relationship with USNC ExCo
  - NIST funding through the USNC for:
    - Payment of IEC dues
    - USNC Secretarial Staff
  - NIST support USNC electronic operations (data bases, mail server, web server, etc.)

US Government Role

Getting the Best of US Technology into IEC Standards

- NIST Coordinate Its and ANSI activities in the influencing of its peer organizations to become full voting and participating members of IEC
- NIST and USTR - Advocacy at other nations in the region supporting CANENA as the electrotechnical standards harmonization group for the Americas
  - NAFTA (in place)
  - COPANT (developing)
  - MERCOSUR (future)
  - FTAA (result)

IEC Organization Chart



Toward a National Standards Strategy to Meet Global Needs

Ronald Reagan International Trade Center
Washington D.C.

Getting the Best of U.S. Technology into Standards

Gerald H. Ritterbusch
Caterpillar
ISO TC 127 Chairman

23 September 1998

My remarks will explain how we in the Construction Machinery Industry have worked through the ISO Technical Committee 127 to ensure that we are getting the best U.S. technology into our Global Standards.

To achieve this goal of getting the technology into the standards, you must have a process that can be worked. Since 1968 when ISO TC 127 was established through the impetus of the United States, U.S. interests have been directly and effectively involved in making sure that the Global Standards developed in ISO TC 127 included U.S. technology.

We have done this by having viable U.S. standards development processes administered by SAE. SAE as an accredited standards developer under the ANSI process brings the procedure to the work such that we provide for the opportunities for all interested parties to participate.

Since the formation of ISO TC 127, the U.S. Technical Advisory Group (TAG) has been an integral part of the SAE standards development process. While the TAG operates under its rules of procedure, it utilizes SAE for the administration of the TAG, while ANSI holds the Secretariat.

Several years ago the TAG felt that additional improvement could be realized if the concept of the "Subject Matter Expert", or SME was applied to the ISO TC 127 portfolio of standards. With this approach, a member of the standards development community was assigned to each standard or new work item.

The TAG looked to the U.S. Standards Development Organization (SDO), SAE for the body of SMEs. We were able to use people already in the SDO process to become the SME. That way the SMEs can use the process within SAE for supporting them in the process of developing the standard.

Each SME then has the responsibility to stay current with the technology and be available to evaluate proposals received from the other ISO members as well as determine when the ISO

standards need revision and what revisions are required. In addition, as the SME are practicing members of the industry, they know what standards are needed for the advancement of the industry and thus initiate many new work items.

The measurement is that essentially all of the critical ISO TC 127 standards contain the U.S. technology. Certainly in the international community there are many pockets of excellence. U.S. experts have recognized that where other ISO members have the better expertise, they should lead the work. Thus, members with major technical capability are actively participating.

The United States is not shy about introducing new work items where it sees the need. The United States recognizes that just introducing a work item doesn't mean it will progress. Thus, the United States takes on an appropriate amount of standards drafting and leading of working groups. As chairman, I work to make sure that there is distribution of work, but ensure that the United States makes the impact where it is important.

The United States can do this because again we have supporting infrastructure in SAE to do the work.

To make our work even more effective, we are now significantly through with the project of dual-designating the ISO standards as SAE/ISO. This will help us to further link the ISO and SAE standards.

Our TAG goal is to make the process of standards development between SAE and ISO seamless. Certainly this causes some problems for SAE in that it will not have exclusive standards, but will have buy-in with ISO standards. To ensure that the best technology is in the standards that are needed for the industry, government and society, we must not keep the standards separated into the "we" and "they" standards.

What we are doing is bringing the U.S. standards development process in close alignment with the international standards development process. By making this one and the same, we can ensure that global standards are developed that will ensure more effective trade and commerce. Obviously, a significant aspect of the more visible standards is to enhance trade and commerce.

Members of the U.S. standards development community must not shy away from the challenge. In some circumstances the work is harder because the other international members are one of those pockets of excellence of technology and thus will lead. In other areas they may be better organized. Obviously, the reward goes to those who have the skills, are prepared and put forth work effort. That shouldn't be changed. It is just necessary that U.S. interests also practice that approach and use a process to ensure success.

It is important that the United States be a contributor to international standards development if the U.S. interests want to get a fair share of the global markets.

The key to success is to work at it by being organized and work the process.

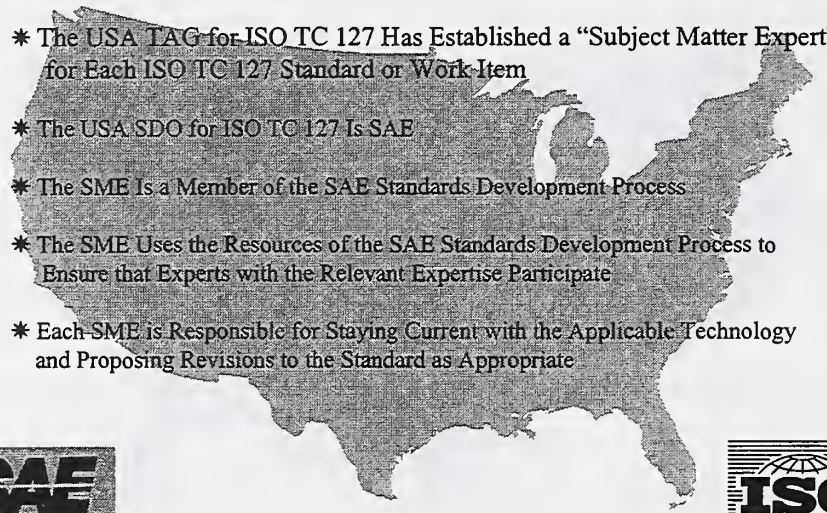
Getting the Best of USA Technology into Standards

Gerald H. Ritterbusch
Caterpillar Inc.
ISO TC 127 Chairman

Getting the Best of USA Technology into Standards

- A Process Is Needed to Ensure That the Best Technology Is Brought to The Standards Development
- For Standards Development in the USA, It Is the Responsibility of Standards Development Organization to Ensure That All Interested Parties Have an Opportunity to Bring Their Expertise to the Process
- For International Standards Development, It is the Responsibility of the USA TAG to Ensure that All Interested Parties Have the Opportunity to Bring Their Expertise to the Process

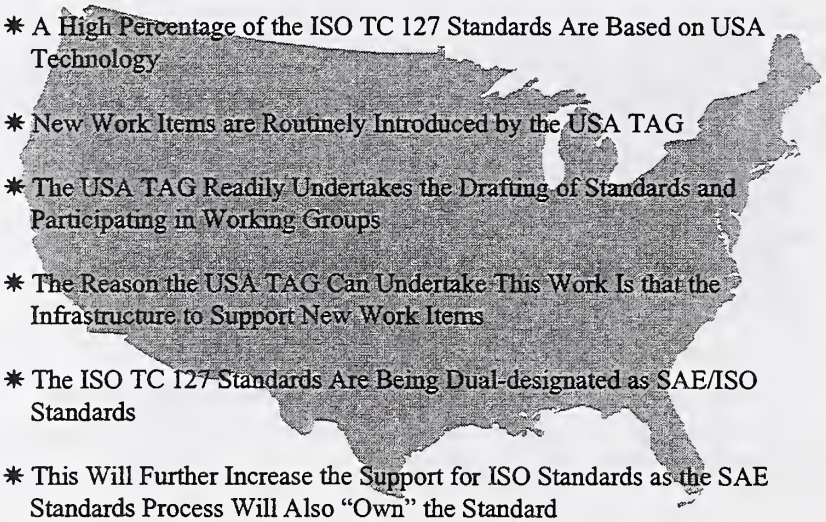
Operation of the USA TAG for ISO TC 127



- The USA TAG for ISO TC 127 Has Established a "Subject Matter Expert" for Each ISO TC 127 Standard or Work Item
- The USA SDO for ISO TC 127 Is SAE
- The SME Is a Member of the SAE Standards Development Process
- The SME Uses the Resources of the SAE Standards Development Process to Ensure that Experts with the Relevant Expertise Participate
- Each SME is Responsible for Staying Current with the Applicable Technology and Proposing Revisions to the Standard as Appropriate

23 September 1998 Towards a National Standards Strategy to Meet Global Needs 3

Results of the Process



- A High Percentage of the ISO TC 127 Standards Are Based on USA Technology
- New Work Items are Routinely Introduced by the USA TAG
- The USA TAG Readily Undertakes the Drafting of Standards and Participating in Working Groups
- The Reason the USA TAG Can Undertake This Work Is that the Infrastructure to Support New Work Items
- The ISO TC 127 Standards Are Being Dual-designated as SAE/ISO Standards
- This Will Further Increase the Support for ISO Standards as the SAE Standards Process Will Also "Own" the Standard

23 September 1998 Towards a National Standards Strategy to Meet Global Needs 4

Getting USA Technology Into Global Standards

* By Making the Process as Seamless as Possible Between SAE and ISO We Have Been Able to Get the USA Technology into the Standards
* We Have to Eliminate the View that "We" Have Standards and "They" Have Standards
* We Must Bring the USA Standards Development Process in Close Alignment with the International Standards Development to Have Global Standards for the Needed Trade and Commerce

Getting the Best of USA Technology into Standards

* It Is a Realistic Goal
* By Following a Process It Can Be Achieved
* It Is Necessary if the USA Expects to Get Its Fair Share of Global Markets
* Organize and Work the Process for Success

telligent Transportation Systems

Getting the Best of U.S. Technology into Standards

Washington, DC

September 23, 1998

Michael Schagrin

ITS Joint Program Office

U.S. Department Of Transportation

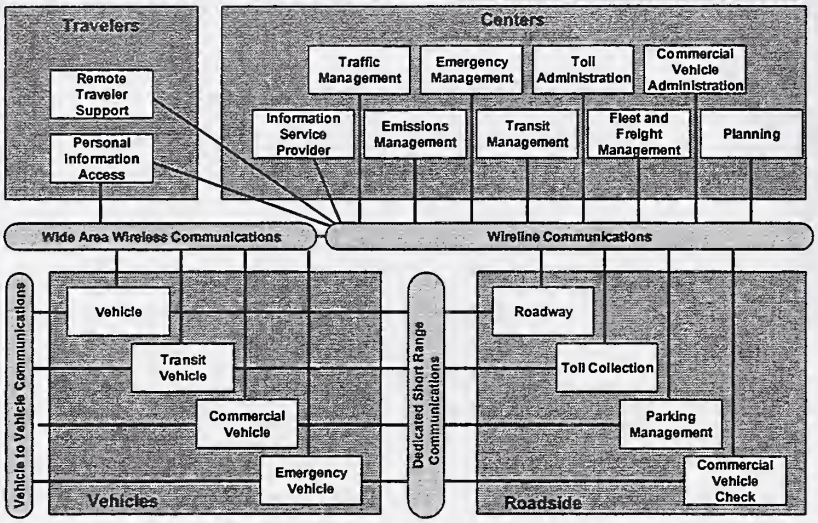
1

tional ITS Architecture

- The National ITS Architecture integrates 30 different services, defining over 300 information flows
- The ITS standards program is developing interface standards for communications and information technology, to promote interoperability

2

ITS National Architecture Subsystems and Interconnects

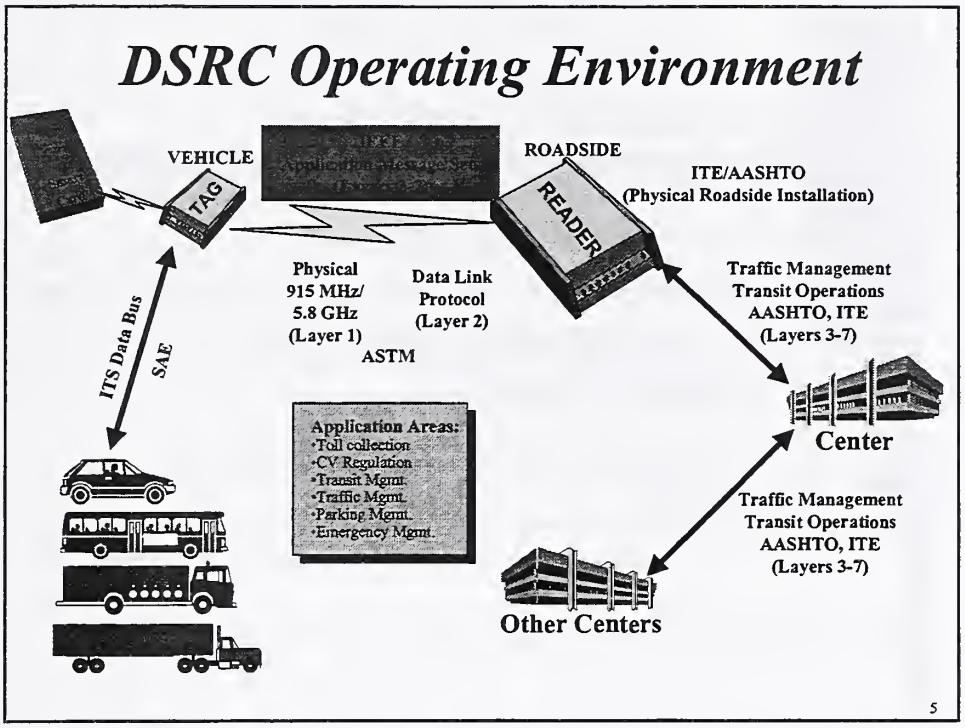


3

S Standards Are Technically Diverse

- *ITS standards represent cutting edge technologies*
- *The technologies supporting ITS represent even broader applications*
- *Leading high technology companies are involved*
- *U.S. DOT is catalyzing the standards development and implementation process*

4


DSRC Operating Environment
VEHICLE
TAG
ROADSIDE
READER
ITE/AASHTO
(Physical Roadside Installation)
Physical
915 MHz/
5.8 GHz
(Layer 1)
Data Link
Protocol
(Layer 2)
ASTM
ITS Data Bus
SAE
Traffic Management
Transit Operations
AASHTO, ITE
(Layers 3-7)
Center
Application Areas:
•Toll collection
•CV Regulation
•Transit Mgmt.
•Traffic Mgmt.
•Parking Mgmt.
•Emergency Mgmt.
Traffic Management
Transit Operations
AASHTO, ITE
(Layers 3-7)
Other Centers
5


ternational Opportunities
The U.S. now has a very strong national standards program
Having well developed products should increase chances of success at the international level
U.S. ITS standards are being addressed at the international level in ISO/TC 204
also, TC 22 (vehicles) and TC 211 (geo-referencing)
6

ternational Challenges

- One country one vote
- European Union(EU) funding of industry representatives to participate in committee meetings
- EU support is limited to European locations

7

nclusion

- ITS standards are enabling interoperability for surface transportation systems
- ITS is using cutting-edge technologies that go beyond just transportation
- ITS standards are creating global marketplace opportunities for U.S. industries

8

Robert D. Wurzel
Vice President
Regulatory and Quality Affairs
BECTON DICKINSON and COMPANY

Getting the Best of U.S. Technology into Standards – A Medical Device Perspective

Unlike many other industry sectors, the medical device and in vitro diagnostic industry are just beginning to embrace and recognize the effective and strategic use of standards to enhance a company's competitiveness and profitability. We are an industry of some 7,000 – 9,000 manufacturers in the U.S. of which about 80 % are small companies with 500 or less employees. The market in the U.S. is about $58 billion dollars with a world consumption of $137 billion.

In a world where healthcare issues are many and varied, there are both challenges and opportunities. Our industry is responding to these domestic and global opportunities with innovative technologies and advanced manufacturing competencies.

Therefore, this discussion today focused on ensuring that standards reflect the best technology globally is very relevant and of concern to us.

In a paper presented by Henry Line of AMP at the ISO General Assembly in September this year, he noted how profoundly the globalization of business and the technological and economic convergence of business have changed the basis for global competition and have set the requirements for corporate survival. To this extent the medical device industry is not unlike other industry sectors.

However, while other industries interact with various regulatory bodies, the medical device industry is a pervasively regulated industry where safety and efficacy of the product is of primary concern to users and to patients. This is particularly true in the U.S. where the U.S. Food and Drug Administration is responsible for protecting the public health and has overseen a diverse and large array of products since 1976.

The universe of these medical devices is immense and complex, including approximately 5000 different types of products encompassing a spectrum of technologies from microelectronics to microbiology. Medical devices range from the very simple, such as crutches and heating pads, to the intricate and complex, like implantable prostheses that restore movement to paralyzed limbs and tissue-engineered devices. We also have many products that are disposable, used once and discarded. One of the differentiating factors that impacts standards development for medical devices, particularly the more sophisticated and newer technologies, is the variability of our products and the variability of people (patients, users, customers) which impacts the predictability and management relative to the intended use and outcomes of the products.

Many of you know that since 1976 most products have been subjected to marketing clearance or approval processes carried out by the FDA. These submissions to the FDA provide information

as required by statute and regulations so that the FDA Center for Devices and Radiological Health can make an appropriate decision relative to the safety and efficacy of the product.

The FDA is a science-based regulatory agency that has recently evidenced a commitment to more efficient scientific preparation for upcoming generations of products. In order to tailor regulatory requirements to advancing technology, FDA must regularly monitor trends that point toward future product development by the regulated industry. In addition, the agency must continually improve its internal processes to manage its current workload and carry out its mission, while preparing for the future. This, of course, positions FDA as a potential partner in standards development.

The medical device industry faces the same challenges as FDA, in managing the present while preparing for the future. The industry has seen tremendous advances in technology in recent years both in the U.S. and around the world. Of ongoing concern to our companies and to the FDA itself is the availability of scientific expertise related to the ever-changing technology base, which greatly impacts the ability of industry and regulators to get new, significant and potentially life saving products to market efficiently and effectively worldwide.

The medical device industry has in recent years been relentless in its pursuit of the use of standards in the regulatory process primarily focused on the need to bring FDA to the same level of understanding and appreciation of the value of standards as other regulatory agencies around the world. We are ever mindful that one should be careful what you ask for, because you might get it.

And we got it! On February 19, 1998 the Guidance on the Recognition and Use of Consensus Standards" was published which provides guidance on the recognition and use of national and international consensus standards, including declarations of conformity to these standards during the evaluation of premarket submissions for medical devices. The use of standards in this manner is optional. The guidance notes that "An alternative approach may be used if such approach satisfies the requirements of the applicable statute, regulations or both". The savvy company will, of course, favor reliance on the standards process for the economies and efficiencies it will yield in global marketing.

Participation in standards development with the FDA is key to "fast-track" FDA regulatory approval to go to market, and we believe it will facilitate rapid approval globally. In order to assure this, new technology must be addressed effectively and timely in the process of worldwide standards development. Indeed, the process of standards development helps everyone – industry, regulators, and consumers alike, to better understand the science of new technology and thereby reduces the risk of misapplication of new technology that can result when a technology, its potential, its applications, and its risks are not fully appreciated. In many instances standards embody so much current technology that it is difficult, if not impossible to apply the standard to newer, more innovative technology. By the time a new standard is developed the science surrounding the product in question has moved on.

One key driver for the use of standards in the regulatory process is the European Directives on medical devices (AIMDD, MDD and soon IVDD). The EU Directives partially rely on standards which allow manufacturers to demonstrate satisfaction on meeting the essential requirements of the directives.

There is clear evidence that world governments are watching the standards-based EU system closely and that nations around the world are becoming more aware of the profound importance and value of standards in the regulatory process. In spite of this, the influence of the FDA can still be seen around the world as the gold standard for new product and new technology approval. Emerging markets look to the FDA, in particular, for clearance/approval decisions or to conformance to international or internationally accepted standards for entry into their markets. Thus, it is important that we partner with FDA for the development of both an effective and flexible standards process and the development of standards themselves.

A recent study conducted by the CDRH (FDA) identifies four discernible characteristics relative to products and technology in the next decade.

1. Medical hardware seems certain to become smarter. Devices and systems are likely to reflect a more sophisticated capability for intelligent behavior and more information databases to guide product performance.
2. Decentralization of healthcare. Technology will support the cost and convenience-driven diffusion of healthcare from the clinic to the home.
3. Boundaries between biological systems and physical and engineering designs will become more transparent.
4. Technological developments will help to catalyze a trend toward greater precision and clinical interventions. Reductions in invasiveness will probably mirror advances in miniaturization and improvements in early diagnosis.

We believe that history shows us a standards development process that is robust. However, our goal for the future must be a standards process that anticipates and even invites technological advancement and the social and environmental changes it will yield. This new forward-looking, and streamlined standards process will be essential to assure global availability of the most sophisticated and up-to-date medical devices that will help our industry to fundamentally improve the health and well being of the world's population and to deliver to the marketplace affordable technologies.

****

THERE WAS NO QUESTION AND ANSWER PERIOD AT THIS TIME

Speech at NIST "Standardization Summit"

Evangelos Vardakas
Director, Directorate General for Industry
European Commission

- I am very pleased and honoured to be invited to address you at your Standardization Summit on World Standards Day. It provides a good opportunity to describe to you how we in Europe manage our Standardization System. It could also provide some elements for your thoughts and may help to eliminate some misunderstandings about European standards that seem to predominate on this side of the Atlantic.

- My thirty years of involvement in all the aspects of standardization allow me, I think, to make this attempt.

- There are a number of reasons why public administrations take an interest in standards.

- By their nature, they improve the efficiency of industry.

- The public authorities in any country or region can and do give political support to standardization institutions without necessarily taking part in the standards work.

- But standards require agreement among many interested parties, not just industry; authorities have a part in ensuring the representativeness of standards to SMEs, workers, consumers, and other interests.

- As regulators, authorities can use standards to support technical rules - a point to which I shall return.

- Public authorities are themselves economically important and are large users of standards for their own activities. Furthermore, they can use the development of standards to support their policy objectives, for example, the transfer of research results to the market in areas of advanced technology.

- In Europe, with our tradition of rather strong national standards bodies with diverging standards, we have had an additional, and vital, purpose in using standards: to unify the European market, and to abolish technical barriers to trade. We have had to create a single technical system starting out of 18 of them (counting the 15 member states of the European Union and three more within the European Economic Area). The power - if I can call it that - of European standards has come about only as a secondary effect of their being the basis of trade in a large economic grouping.

- Furthermore, we have been engaged in the simplification of rules and in deregulation. Through our approach of reference to standards, responsibility for implementing regulation has effectively been shared with industry, since industry is

entrusted with the task of drawing up the standards that give presumption of conformity with legislation. In short, there has been a new re-allocation of roles between industry and public authorities. Deregulation has actually taken place, and industry is taking the lead in providing technical solutions to regulatory requirements.

- For all these reasons we in Europe have financially supported the development of a European standardization system, and gradually drew back as it was put into place. In this way, we also respected the independent and voluntary nature of standardization. The European Committee for Standardization CEN estimates the current level of this support of the European Community at less than 1.5 % of total resources invested in standardization in their area. The figures for CENELEC and ETSI are even lower. If you take into account that the public sector in Europe covers more than 10%, you may agree with me that this is an efficient investment.

- Over these last 15 or so years a common set of European standards has been constructed. Some of them - in fact, a minority - are linked to legislation. For example, under certain European legislation (the "New Approach" Directives), standards provide a privileged route to demonstrating compliance with legal requirements while remaining voluntary. Standards are also used in connection with European public procurement rules, though their means of application is different: standards form a mandatory basis for public tender documents where they exist (with some exceptions). But in neither case are the standards legislative requirements; they describe preferred solutions, not absolute obligations for trade. Further it should be kept in mind that European public authorities are not involved in the choices which take place in the framework of the standards setting process.

- In Europe Standards are not just documents thrown into the market to compete with each other, or with technical specifications, as if they were merely a "product". Standards have an authoritative character stemming from the consensus procedure used in their adoption, and its real openness, and from the recognition by regulators and economic players of the standards bodies that bear responsibility for them. At the same time, the national member organizations - and, by implication, industry - have accepted a discipline, set out in the rules of the European standards bodies, that obliges them to transpose European standards and to withdraw conflicting national standards. In this way, we have come to a coherent set of standards in Europe. It is this that has made it possible for authorities to permit standards to play a role in policies. Obviously there is a terminology conflict here regarding the term "standard" between the two coasts of the Atlantic.

- To deal with another fallacy: European standards are not intended to gain ground for European manufacturers. Indeed, European standards are positively advantageous for all those who wish to sell into the European market from outside. Importers - who are treated no differently from European producers - face only one set of technical specifications, and one set of marking requirements, for access to the whole European market. Consider, for example, the EU's import figures for medical devices - a European regulated area - 1198 MECU in 1985, rising to 3409 MECU in 1995. Or, to take a

particularly controversial example, consider the GSM mobile telephony system: over half the intellectual property rights that underlie the technology of this system are owned by non-European companies.

- The existence of a common regulatory regime makes it attractive for countries interested in exporting to the European Union to consider the alignment of their own standards to the European ones.

- Europe is committed to the making and use of international standards. In certain areas - such as pleasure craft - the standards recognised for use in connection with European legislation are in effect the ISO standards. European standards are for use where suitable international standards are lacking. Obviously, where European standards bodies adopt an international approach in the framework of the Vienna and Dresden agreements of CEN/ISO and CENELEC/IEC, we would expect that our trading partners would use the international standards that have been jointly developed. But we do not see such a commitment to exist.

- There appears to be - I hope only temporarily - two philosophies of standardization - the American and the rest of the world's.

- In particular, the American system appears to operate by permitting different standards bodies to draw up their own standard, and for the standards themselves to compete in the market place. However, the systems of the rest of the world including the European, and that of ISO/IEC, are based on a concept of a single, not conflicting standard, agreed by general consensus, setting out a set of commonly accepted technical parameters which provide a context in which competition can take place. In other words, the first phase of competition takes place during the standardization process. Once a standard has been adopted, in a transparent open, non-discriminatory and balanced process, manufacturers and suppliers may compete at the level of the product or service.

- I said before that some countries may have reasons to adapt their national standards to those of the EU. We have not a specific mechanism in Europe to promote or impose our standards to the rest of the world. If it happens, it happens naturally or through international standardization. Some countries may try to impose their standards to third countries. I think this practice, if it is made in a bilateral environment, does not have a bright future. And I will explain you why: Where a standard is transplanted from one standards development environment to another, it will have its own life unless care is taken to continually adapt it. Where, for example, an American standard is spread to other countries, through American political and economic influence or because of the technical quality of the standard, the result can be only of a temporary nature because of the very incompatibility of the two approaches. The two standards - the American, and that transplanted to another area, will start life within two basically incompatible systems. I can use an example with all reserves because not all the details are known to me: to the case of Mexico in adopting the United States' electrical installation rules. Since the American and Mexican systems of standardizing (and therefore of reviewing standards) are different, the American advantage will be a temporary one. The American

requirements as they now stand have been adopted in Mexico; thus in Mexico they are owned and controlled by the Mexican regulatory and standardization system. Unless the standards are put into a *common* system (either internationally or regionally, e.g., through NAFTA) they will be changed in different ways by the US and Mexico, each within its own system, and ultimately they are bound to deviate.

- The conclusion is that you can influence the adoption of friendly standards only through multilateral supranational systems.

- Openness to participation in standards work is not the same as true participation. Standardization requires that the participants in fact cover the broadest possible range of interests, and it is the responsibility of standards bodies to ensure that their consensus is as broad as possible.

- Indeed, in Europe the efficiency with which standards bodies carry out their obligation of representativeness is the main criterion for the recognition by public authorities of standards bodies as such.

- Europe is committed to the liberalization of international trade. CEN/CENELEC/ETSI already have regular meetings with ANSI. They started 9 or 10 years ago and I am proud because it started at the time I was Secretary General of CEN. But for standards issues also the Commission needs to engage in dialogue with a strong interlocutor in the US, rather than a system of widely distributed competing competencies.

- Finally, I should mention ISO and IEC. Perhaps it is true that IEC and ISO need to be made more responsive to trade priorities. They need to be given the ability to honour the importance now attributed to them by the privilege attached to international standards by the WTO Technical Barriers to Trade (TBT) Agreement. But we have to keep them going; we cannot simply start again. "Don't throw away your old shoes before you buy the new ones". It is clear that in the United States a decision has to be taken: either to work fully within ISO/IEC and contribute to their re-engineering efforts together with the other members or to stay outside and compete with them. However in the latter case, one can not validly complain that his standards are not taken into consideration. I hope that we can co-operate in advancing international standardization, which is to the advantage of all of us.

Mr. Hermann's Introduction of the Third Panel

I'm going to begin to set the stage by drawing some premises and assumptions from what I have heard so far. I grant that I shall do this prejudicially to my own purposes, but nonetheless, this is what one might have learned from this morning. Standards are of increasing importance to global economies to trade and to the quality of life, and they are also very important to the U.S. position in this global framework. The economic and industrial power of the United States provides the opportunity for increased global leadership by the U.S. It will be to our advantage to play an increasing leadership role, and it may also benefit other societies as well. An assessment can be drawn that the current posture of the U.S. in the voluntary standards business at this time is not adequate to meet our objectives. To adequately address our needs, the public and private sectors must cooperatively perform their separate responsibilities in harmony. To achieve these objectives, it will be necessary to have a strategy within which the public and private sectors can cooperate, and it will be necessary to identify the resources necessary to implement this strategy. We have with us today some very distinguished and experienced executives in our business to discuss the resources and funding area. Let me introduce them, if I can do this: Mr. Reuben Autery from GAMA; Mr. Arthur Cote from NFPA; Herb Kaufman from SAE; Malcolm O'Hagan from NEMA; Ollie Smoot from ITI; and Ray Kammer of NIST, who promises that he will be back very shortly, or at least before his turn. Let me now turn to Ruben Autery, Reuben.

C. Reuben Autery
President, Gas Appliance Manufacturers Association

May I see a show of hands of everybody who read my biography that's in the packet? Weren't you just tickled to death to know that I live in Dunn Loring? Hey, for all the rest of you who missed it, it tells you about my grandchildren. I think you have to put yourself in some kind of a context, and for my purposes here Mr. Chairman, I do not intend to use the hour and a half that you said was allotted for each of us. I intend instead to try to suggest that there are some things that need to be put out on the table in a clear and precise way. One of the opportunities I've had over the last couple of cycles has been to be the chairman of the American National Standards Institute's Finance Committee. Let's see a show of hands, who cares that that's true? Anybody? Well, here are a couple: Bob Hermann cares, and Sergio Mazza cares and Bob Feghali - there's the two we pay, right? Those two guys.

The reason that I am trying to be a little bit jocular here is because it is Reuben's opinion that it is time to get under the same umbrella - the private sector, the public sector - to include government agencies like FDA, NIST, and others - and the consumers - and say to ourselves the American National Standards Institute and its partners - and there are a lot of them under the umbrella of the Institute. There are many who are not under the umbrella. I have been watching. I believe now I have been on the ANSI Board for some eight years, and I see a lot of posturing that says, well, if you can go get this group to do *da dum da dum da dum* (sic), then I will be much more active and I will be more supportive and I'll *da dum da dum*, whatever. I'm so tired of *da dum da dum,* really because you can't pay bills with that. We keep making little charts with all kinds of information, and the people who were going to do the audiovisual stuff asked me to send them a CD of the materials I would use. I don't know what a CD is, so I didn't. I find it difficult, but one of the things I don't like about computers is that it's so easy to change the charts. I mean we can just decide that we're just going to run a deficit now, or we're not going to do that any more.

It seems to me that we need, as Mr. Hermann was saying, to decide what it is we want to fund, what it is we want to accomplish, how do we want to fit in to the international community - mark that down in indelible ink - and say Reuben, your share of that is *zot*, and consumers, however they ultimately will pay for it, and the regional governments and the Federal Government. I just cannot believe, having spent 30 years on active duty in the United States Air Force - when I was near the end of my career, for the last five years, they sent me to the Pentagon. One of the reasons I retired five years early was because they sent me to the Pentagon. I liked flying airplanes, but they found out that I liked flying airplanes, so they sent me to the Pentagon. I discovered that my job in the Pentagon was to build what is called a program that would go then to the Office of the Secretary of Defense (OSD) to be pilloried and changed; then we would go to the Congress with what the United States Air Force wished it could look like, and we had a funding plan. Then the Congress would decide that you don't understand politics, Reuben, so you're not going to get this and this and this and this. It seemed to me that on the runways and the tarmac in Southeast Asia, where I had the opportunity to fly two combat tours, the people who really knew what the hell they were doing were those kids who maintained the airplanes that I had the opportunity to fly, and in the United States Air Force we have a checklist for

every airplane with about 300 items that you are supposed to check before you strap this hummer on and fire up the engine. For the 200 combat sorties that I flew, I went out to the kid and I said, "Is the airplane good?" and he said, "Sir, it's as good as I can make it." I climbed the ladder and strapped it on went to fly combat. The first time my supervisor saw me do that he said, "You can't do that," and I said, "What the hell are you gonna do, send me to Southeast Asia and make me fly combat?" Somewhere we gotta have trust, that's all I'm trying to get across here. Somewhere we have to decide that we do in fact have common interests. Over the last 18 months or so the federation staff has gone through a process, that the ANSI President happened to call re-engineering, that is beginning to show a significant improvement in the use of the time and funds that we have, and I would congratulate the staff for that. We will see a lot more benefits as time progresses, but the fact of the matter is that we don't have a vision. There are too many SDOs who see it one way and wish for something that is different. We tell our president we want you to pay your bills but we do not want you to sell standards. OK, where do you want me to get the money? I was going to do the bit, show me the money. Well I think that's where I'm coming from in seriousness, and I am pleased to have been a small bit of this program. Thank you Mr. Chairman.

Funding the Process—NFPA's Perspective

Presented by Arthur E. Cote, P.E.
Senior Vice President & Chief Engineer
National Fire Protection Association

NFPA is a 100+ year old organization whose mission is to reduce the burden of fire on the quality of life by advocating scientifically-based consensus codes and standards, research, and education for fire and related safety issues.

As a standards developing organization (SDO), NFPA has over 6000 unpaid volunteers who serve on 223 technical committees. These committees develop 314 NFPA codes and standards addressing all aspects of fire safety from Aerosols to Zirconium. NFPA codes and standards are recognized around the world as reliable state-of-the-art information on fire and related hazards.

The process is 100 % self-funded. The major expense is borne by companies, organizations, and individuals who pay their own expenses to participate in the standards development process. NFPA derives income from the sale of the codes and standards as well as supporting materials and training such as handbooks and seminars.

Like most SDO's, however, NFPA operates within the 80/20 rule, that is, 20 % of the activity funds the other 80 %. In fact, it's more accurately the 95/5 rule—5 % funds the other 95 %. Large portions of standardization activity are not by themselves profitable or even revenue neutral.

It's important as we address the issue of ensuring that adequate resources are available to fund the process of standards development and dissemination to remember that non-profit SDO's, like NFPA, return substantial funds back into the process.

NFPA, for example, funds the cost of:

- Staff liaisons to the committees;
- Staff travel to committee meetings;
- The facilities for the meetings
- The publishing and dissemination of public proposals and comments;
- The postage and handling of committee ballots
- The production, distribution, and marketing of the codes and standards themselves;
- The overall oversight and management of the system including the appeals process;

- The response to thousands of requests for information about the content of codes and standards via telephone, letter, and e-mail;
- When necessary, the legal defense of the standards and the system.

A number of years ago, NFPA brought together a number of the key stake holders in NFPA standards system and asked them what they wanted from NFPA as an SDO. Their answer was simple. They said, "We want to give you our expertise, don't waste our time. Make our participation in your system as efficient as possible." We've followed that advice and have introduced many time-saving processes including more and more electronic processing of committee deliberations and more recently Internet access for public proposals and comments.

Someone has to pay for these activities. Standards don't just appear magically after the technical experts reach consensus.

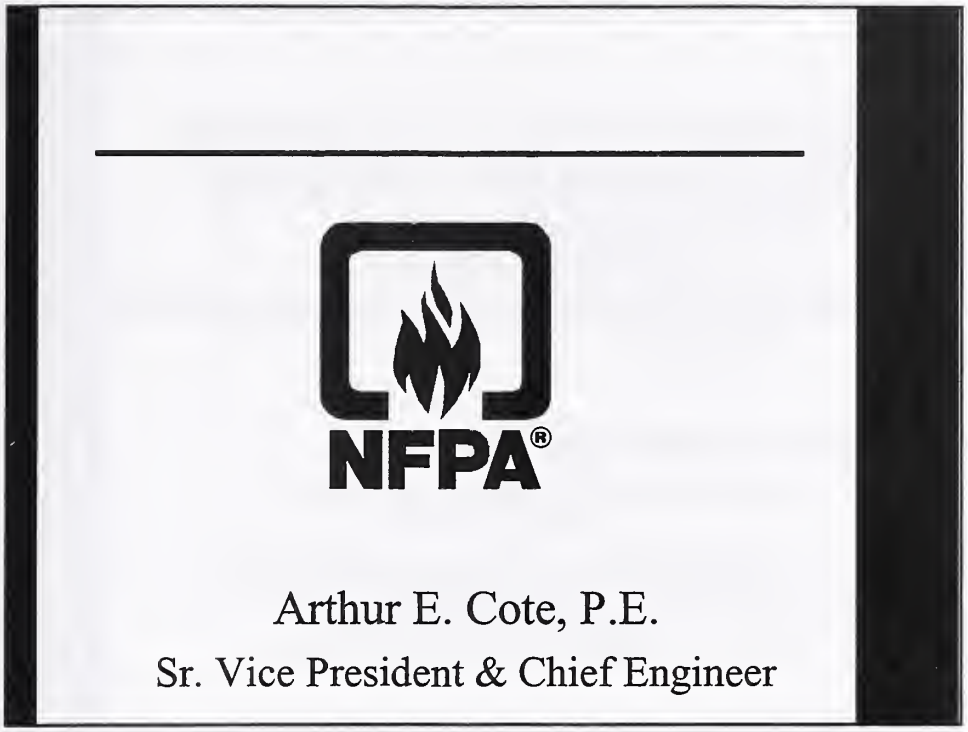
As part of a National Standards strategy, we are debating issues as diverse as:

- Access to free standards via the Internet;
- U.S. government standards over federal agency developed standards;
- U.S. government preference for ISO/IEC international standards over international standards developed by U.S. SDO's;
- ANSI's fee for service (pay to play) funding strategy;
- Potential for increased U.S. government funding of international standards activities, such as ANSI's ISO/IEC dues.

Some of these issues, may help SDO's to offset some of their costs. Some, however, could be detrimental to the ability of SDO's to continue to fund their standards development activities.

As we debate these issues it is important not to loose sight of how cost effectively the U.S. voluntary consensus standards process is in developing and disseminating standards worldwide.

If we take away the ability of U.S. standards developing organizations to generate income from the sale of codes and standards worldwide, these SDO's would no longer be able to manage the open consensus processes that form the backbone of the ANSI/U.S. standards development infrastructure. A system that develops timely and cost-effective standards for the world.



Funding the Process...NFPA Perspective

- NFPA
  - 100+ year old
  - Mission: Fire Safety
- SDO
  - 6000 Volunteers
  - 223 Technical Committees
  - 314 NFPA Codes and Standards

Funding the Process...NFPA Perspective

- 100% Self-Funded
  - Volunteers Fund Participation
  - NFPA Income From Sale of Codes & Standards
- 80/20 (95/5)
  - Not All Standards Activity is Profitable
- Contribution to Standards Process
  - NFPA Funds All Administrative Costs

Funding the Process...NFPA Perspective

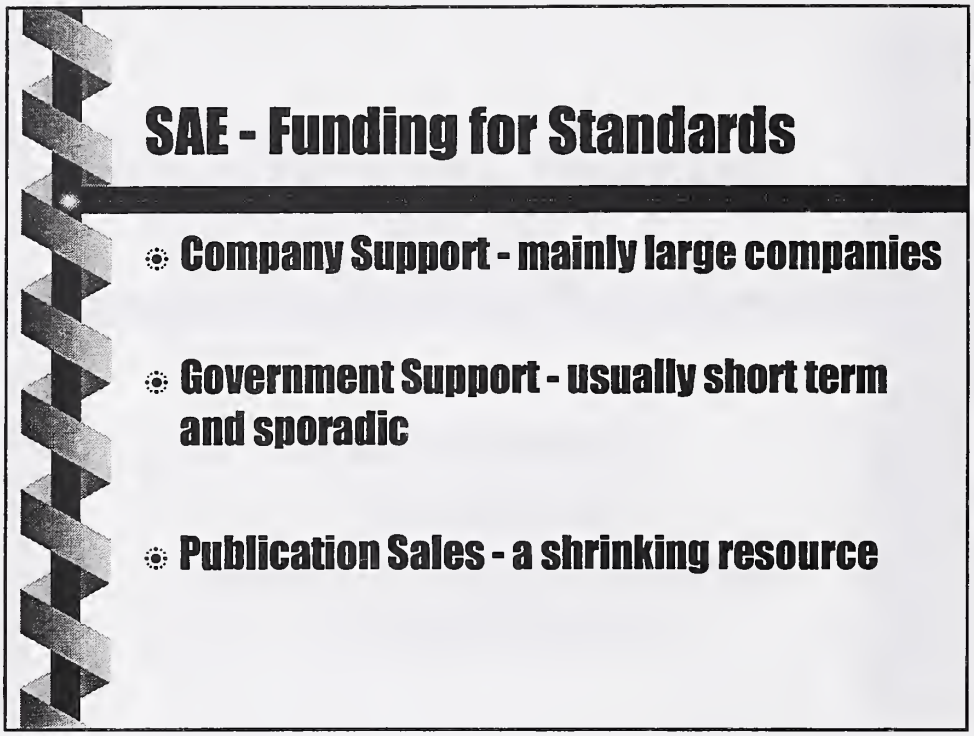
- Stake Holders Desire
  - "Don't Waste Our Time"
  - Efficiency
- National Standards Strategy
  - Must Recognize Effectiveness of U.S. Standards System
  - Must Not Sacrifice U.S. SDO's

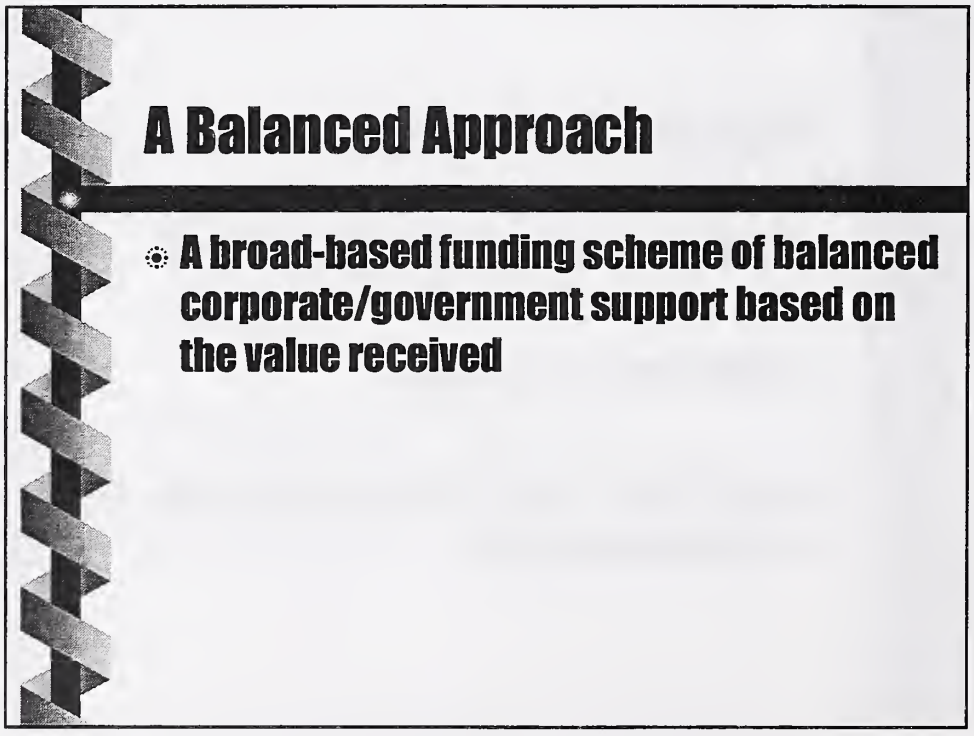
Standards - An Investment for our Future

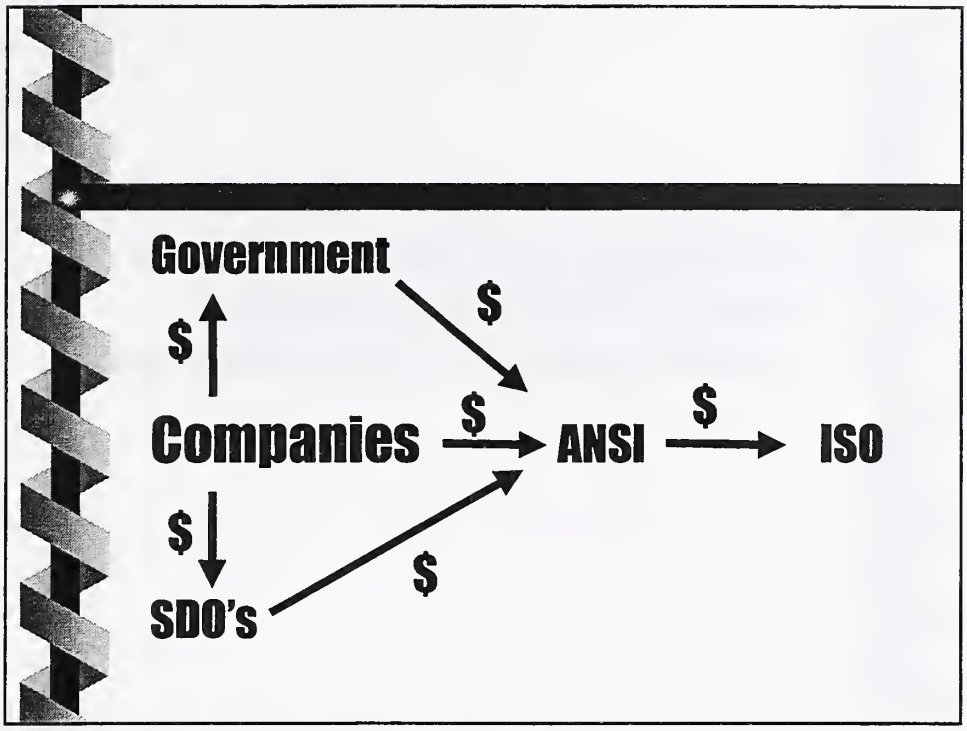
V. Herbert Kaufman
Group Director
Technical Standards & Research
SAE International

Value to the Customer

- Right Features - global requirements
- Right Time - 24 x 7 x 365
- Right Price - based on the system cost, not the document cost


SAE - Funding for Standards
Company Support - mainly large companies
Government Support - usually short term and sporadic
Publication Sales - a shrinking resource


A Balanced Approach
A broad-based funding scheme of balanced corporate/government support based on the value received



- Companies with largest share of the market will benefit most and will likely share the largest percent of the cost

- Government funding should cover the benefits received by smaller size companies and other public sector groups

The Issue in Question

- Finding the right balance between company and government support

- The amount of financial support should be proportional to the amount of influence

SAE Position

- SAE would support a proposal that NIST would financially support international standards work

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Toward a National Standards Strategy to Meet Global Needs

Malcolm E. O'Hagan
President, National Electrical Manufacturers Association

September 23, 1998

Toward a National Standards Strategy to Meet Global Needs

Introduction

Globalization and regionalization of markets have clearly changed the face of commerce. The European Union's internal market program, the NAFTA, FTAA, APEC and TABD agreements will significantly impact U.S. manufacturers and exporters, as well as consumers. These events necessitate the need for a more effective National Standards Strategy if we are to compete in a global market. Such a strategy must meet the needs of both private and public sectors, as well as the needs of the customer. The importance of standards-related trade issues is more obvious now since standards are having a growing impact on global commerce and can either facilitate or impede international trade. The implications are great for our economy. We must work together, the U.S. standards community under the umbrella of ANSI, in partnership with NIST and other government agencies, to develop an effective and sound U.S. policy to serve the needs of our industries.

The electrical industry includes products used primarily for the generation, transmission, distribution, control, and utilization of electrical energy. These products, by and large unregulated, are used in utility, industrial, commercial, and residential installations. Many of these products incorporate the spectrum of electrical and electronic technologies -- including a growing use of information technology and telecommunications technologies. The result is the use of technologies in the core electrical industry that overlap other industries. Because of this overlap, there must be an understanding and recognition of the needs and contribution of each sector in order to develop an effective National Standards Strategy. Through the years, electrical products built to standards that both have and continue to achieve international acceptance, have effectively served the US electrical infrastructure and maintained electrical safety.

The National Electrical Manufacturers Association (NEMA) believes that a truly "National" Standardization Strategy must include a conformity assessment dimension as well as a standards segment, since both are a part of the market access and globalization of trade. NEMA desires to work directly with NIST and ANSI in the development of a National Standardization Strategy that includes both essential elements.

- The US should promote the concept that ISO and IEC standards be "inclusive" of practices and standards with broad multinational acceptance and should accommodate alternative solutions to meet international market needs.

- Standards harmonization must be pursued in a manner that reflects the principles of the WTO-TBT Agreement. Harmonization of existing standards does not always necessitate identical standards, but rather a set of mutually "equivalent and compatible" inclusive standards, with as few national differences as possible. The development of national differences, when necessary, must be transparent and those differences must be included in the standard document.Standards should be developed by the private sector, with the government participating in the standards development processes. The marketplace should choose the applicable product standards and the conformity assessment process.

- Voluntary private sector standards have provided safe and acceptable electrical products and this system must continue to be used in the US and encouraged throughout the world. Only when health, safety, or environmental standards and conformity assessment needs can not be met by the private sector should government regulations be considered.

Role of the American National Standards Institute

- The US Government should recognize ANSI as the umbrella organization for both domestic and international standards activities and the interface with IEC and ISO.

- ANSI should be a national standards-oriented organization made up of members from industry, trade associations, and government operating within the limits of constrained resources . This activity should function with government assistance as outlined below.

- ANSI should assure that its structure develops programs based on wide member input and that are responsive to the members needs. Programs that do not add value to the ANSI role as the US umbrella organization for standards should be discontinued.

- ANSI represents broad interests in the standards community. The ANSI structure and management must recognize that different industry sectors have different standards and conformity assessment requirements, and that what may be the best route for one industry sector could be detrimental if imposed on a different sector.

- ANSI must maintain a close liaison with the Federal Government and should relocate to the Washington DC area to facilitate this interface.

- ANSI should maintain a close liaison with regional standardization bodies and trade forums to keep ANSI members informed of developments and to promote US interests in their activities.

- ANSI should, where appropriate, support and promote the acceptance and use of American National Standards and North American practices where they meet local market needs.

- For example, the US electrical safety system (installation codes, product standards and certification, and inspection/verification) is unsurpassed in providing a documented record of safety in response to local and national needs. This safety system and its benefits ought to be considered as a model for adaptation throughout the world. Accordingly, both NIST and ANSI should promote acceptance of the U.S. electrical safety system as a system which can be extensively utilized and adapted internationally.

Role of the US Government

The US Government should provide international and regional support and be an international advocate for this electrical industry strategy--supported by a cooperative working relationship and Government funding. The objective is international standards and conformity assessment schemes which effectively incorporate US interests through a coordinated strategy between industry and government—recognizing that the government role must not dictate or control the US voluntary participation in the international standardization process. An appropriate role for Government includes the following:

- Coordinate Department of Commerce resources such as NIST Standards Attaches assigned to Embassies around the world, U.S. Foreign Commercial Service, the ITA Advocacy Center and other Agencies.

- Understand the electrical industry standards and conformity assessment processes and respond appropriately to foreign government challenges to the standards system.

- Develop WEB SITES through NIST for Global Internet standardization communications and information exchanges.

- Continue joint training and promotion initiatives

- Participate actively on technical committees of standards developing organizations

- Work with industry to provide funding for standards activities which support the infrastructure for U.S. participation in the international standards arena.

NEMA looks forward to continued participation in the development of a National Standards strategy.

Toward a National Standards Strategy to Meet Global Needs

Malcolm O'Hagan, President, National
Electrical Manufacturers Association

September 23, 1998

Overview

- Introduction
- Standards and Conformity Assessment
- Role of ANSI
- Role of the U.S. Government
- Conclusions

Introduction

- Globalization and Regionalization have changed the marketplace and necessitate the need for a more effective "National Standards Strategy".
- The Electroindustry: Includes products used primarily for the generation, transmission, distribution, control and utilization of electrical energy.
- National Strategy must include both Standards and Conformity Assessment elements.
- Roles of Government, Industry and ANSI require definition in the National Strategy.

Standards and Conformity Assessment

- The Marketplace should choose the applicable standards and conformity assessment process.
- IEC and ISO standards must be inclusive of standards and practices having broad multinational acceptance.
- Standards harmonization should reflect principles of WTO-TBT Agreement.

Standards and Conformity Assessment, ctd.

- Standards should be developed by the private sector, with Government participating in standards development process.
- The U.S. Electrical Safety System and its benefits should be a model for adaptation throughout the world.
- Use of voluntary standards should be encouraged worldwide with minimal government regulation in areas such as health, safety and environment.

Role of ANSI

- Be the umbrella organization for U.S. private sector standards activities and be the interface with IEC/ISO.
- Be a national standards-oriented organization comprised of industry, trade associations and government.
- Recognize that various industry sectors have different standards and conformity assessment requirements and that unique needs in these areas should be met in each sector.
- Maintain close liaison with the Federal Government.
- Maintain close liaison with Regional Standardization bodies and Trade forums.

Role of ANSI, ctd.

- Support and promote the acceptance and use of American National Standards and North American practices.
- Develop programs based on wide member input that are responsive to member needs within limited resource constraints.
- Programs that do not add value to the ANSI role should be discontinued.
- ANSI should relocate to the Washington DC area to enhance interaction with government.

Role of the U.S. Government in Standardization

- USG should provide international and regional support and be an advocate for industry strategy.
- Coordinate USDOC resources such as NIST Standards Attaches, USFCS, the ITA Advocacy Center and other Agencies.
- Understand the electroindustry standards and conformity assessment processes and respond to foreign challenges to these systems.
- Develop websites for Global Internet information exchanges related to standards and conformity assessment.
- Continue joint training and promotional initiatives.

Role of the U.S. Government in Standardization, ctd.

- Participate actively in technical committees of standards developing organizations
- Work with industry to provide funding for standards activities that will aid in broader use of U.S. standards for market access, e.g.:
  - IEC/ISO membership dues
  - Translations of standards into other languages
  - Standardization training workshops, etc..

Conclusions

- NEMA recommends a "National Standards Strategy" that will:
  - Maintain support for a voluntary system of standards
  - Streamline the role of ANSI in standardization
  - Assign a meaningful "partnering role" for Government
  - Define a truly "National" Standardization Strategy, which includes both standards and conformity assessment segments.
  - Be responsive to Electroindustry needs

Towards a National Standards Strategy

Oliver Smoot
Information Technology Industry Council
September 23, 1998
Funding the Process

Standards Development Should Not Be Yoked To Standards Sales

The US should support standardization based on market relevance , where market relevance includes the needs of public authorities and thus also supports meeting the public interest.

Ordinarily the sector involved should figure out how to pay for developing and disseminating needed standards.

This clearly can include governments funding standardization work, as long as the requirements of openness and due process are met.

However, significant work needs to be done to enable this to happen. Currently the one size fits all approach of relying heavily on document sales inhibits sectors from achieving standards objectives at the international level and to some extent in the American National Standards or ANS world.

Critically important to ITI is that the system must support both those who want to fund work through publications and those who want to give the publication away. Currently, this is difficult.

Our solution is to focus the costs and revenues for standards work in the sector or TC or whatever that benefits from the work and let them figure out how to pay for that work and a proportionate share of the infrastructure.

Consistent Attention to Copyright Concepts and Practices Would Help

As a lawyer, when I got involved with standardization I was shocked to discover that standards publication traditionally has avoided copyright and trade secret concepts. This avoidance has lead to a dysfunctional system that would be corrected by proper recognition of copyrights and trademarks. As a specific example ANSI should look again at charging for the use of its Mark on ANS.

Focusing on the proper legal concepts and business objectives would also sweep away the pervasive fear of electronic distribution. If electronic distribution of standards won't work then electronic commerce won't work.

Domestic Standards System Funding Issues

There is a set of activities that should be organized and funded on a collective basis: procedures development and administration, national standards approval, and their associated mechanisms, and US representation in the international standard policy arena. These are the reasons for ANSI's existence.

Specifically, ANSI dues or general funds should pay for the standards policy process and for the standards administration process to exist

However, there should be some fee for all specific service actions to keep actions responsible. While the cost of having a standards approval process should be shared generally, SDO's should pay the incremental costs of approval for each standard.

Everything else ANSI does should be funded on a fee for service basis.

International Standards System Funding and Structure Should Be Reformulated

The ISO and IEC currently have totally unified organizational and financial structures. While this approach might have made sense in the past, it should be reviewed today. At least in the financial impact it currently causes dysfunctional results. Because of the differing environments for the various technical sectors, funding for policy and technical work should be separated.

This will be difficult to accomplish not only because ISO/IEC work currently on a consolidated basis, but the culture is against it. The US system is, however, an example that this approach can work--even thought I noted about some additional steps we need to take. I see the need to keep only core requirements and services under general funding. The technical work should be supported by the relevant sector with wide latitude on how the sector funds the work. Conversely, the policy work should be funded on a national body basis. Whether this change would also serve to begin to resolve the ISO/IEC reliance on sales of documents is unclear, but I would hope it would.

US Government Funding Of The System Should Be For Clear, Public Purposes

There are many examples where funding through targeted programs meeting agency responsibilities should be increased:

- Information dissemination under our WTO obligations and as part of export promotion should be first class.

- Training of government standards representatives, private sector delegates to international meetings — where government interests are affected—would be a

distinct public service, and expansion of the training for standardizers in other countries would help spread of word about the virtues of the US approach.

- We recognize and welcome USTR's recent additional capabilities in standards as we look forward to the Millennium Trade Round where the Technical Barriers to Trade Agreement might be reopened.

- I would like to publicly note that, after many doubts over the NIST standards officer program, it works, at least in the key mission in Brussels. More could be done in other countries.

ITI supports a unified ANSI dues schedule under which government agencies would pay like all other organizations. The ANSI policy now supports this. There appears to be obstacles within most government agencies to come up with the funding.

ITI opposes simple subsidization by government of standards development or the system. Government should have to explain why they would give "extra" funding, so that all can see if the funding is publicly justifiable and what the strings might be. Government funding of this type always is small to the government and large to the recipient organization. The temptation is to become addicted to it. Therefore, any such funding should be based on clear articulated agency requirements and responsibilities so that when attentions shift, people change or funding gets tight, the funds do not arbitrarily disappear. Besides, clear articulation lets the recipient know what the strings are or are not.

Private Sector Funding

It is time to face the fact that ANSI is not a trade association or a professional society. Many of the reasons for organizations and individuals to join trade or professional societies do not apply. We need to find a way to generate broad based corporate recognition of ANSI's social role through funding that doesn't rely on the idea of membership, going to meetings and personally participating. Possibly we need a totally new concept. Possibly we can work through private foundations created to support increased competitiveness, or health and safety, etc. Possibly we can aggregate the interest of sectors who don't want to participate directly through trade and professional associations already members of ANSI. The hard part may be evolving the governance structure so that it works under a radically different flow of funds.

Considering a U.S. National Standards Strategy:

Building on A Framework for Success

Position Statement of the Information Technology Industry Council

September 11, 1998

The Information Technology Industry Council (ITI) represents the leading international companies in information technology goods and services. Our industry in the United States produces over $297 billion in products and components alone. This represented 27 percent of the world total of $1.1 trillion in 1997.

We believe that the U.S. standards system, based on strong public-private cooperation, is extremely successful in meeting public and private sector needs in the post-war period. The policies which have driven this success are based on: (1) private sector-led standards development, (2) rapid responses to other nations' standards strategies, and (3) aggressive efforts to remove technical, regulatory, and standards barriers to global trade.

We believe that an open discussion of the benefits, costs and trade-offs involved in national standards policy should facilitate enhanced effectiveness of standardization efforts. We strongly support the following set of overarching principles as the foundation for action.

Summary and Fundamental Principles

ITI believes that the U.S. private sector-led approach to standardization, bolstered by strong public-private communication and cooperation, is the best in the world for advancing both private and public interests. It is neither possible nor appropriate to seek a detailed national strategy for U.S. standards policy that applies to all sectors. A vigorous discussion of standards policy priorities, however, is squarely in the national interest. We believe the fundamental principles and priorities for this discussion should include:

1. Maintaining the U.S. standards system's great strengths in private sector leadership and responsiveness to market forces. This should include enhanced public sector technical expertise in standards activities. Our system is viewed as a model of success overseas, and we should seek to strengthen private sector-government cooperation in standards.

2. Strengthening the dissemination of information in the decentralized U.S. standards system. This can be achieved through the application of information technology in standards work; as a side benefit this will facilitate the involvement of, and assistance to, small and medium-sized firms around the world. Moreover, it will increase the speed of standards introduction and reduce the costs that are the most important factors in successful dissemination of standards information.

3. Improving public-private cooperation on standards policy, particularly in support of international objectives.

4. Exercising U.S. leadership in world wide efforts to facilitate trade through the removal of regulatory and technical barriers to international commerce.

1. <u>The private sector should continue to lead U.S. standardization</u>

It is a fundamental belief of ITI that technical standardization should support the health, safety, environmental, and economic well-being of individuals. These needs can best be met through a continued reliance on the dynamics of private market forces to guide standardization. The U.S. system, which is private sector-driven and decentralized in its approach to the development of standards, has consistently proven to be the best way to achieve optimal results to market driven requirements.

In the U.S. standards system, the public interest is fully represented through public-private sector cooperation. When governments determine there is a public interest that requires technical regulations in areas such as health, environment, safety, solutions achieved by open private-public sector standards development lead to the best result. We must focus on strengthening these relationships in the United States. This includes finding innovative ways to involve all stakeholders in the standards development system.

Participation of all parts of the U.S. government in standards development is important. Government agencies are key users of standards for regulatory and procurement purposes. The National Technology Transfer and Advancement Act of 1995 provides a legal basis for government participation in the development and implementation of private sector developed standards. The Act (P.L. 104-113) gave the National Institute of Standards and Technology (NIST) an important role in coordinating U.S. Government participation. NIST can and does facilitate close public-private cooperation in standardization. This serves the interests of both the U.S. private and public sectors in obtaining the best possible standards to meet a broad range of demands.

Public-private cooperation requires that government annually provide its fair share of financial support to the standards system. ITI supports funding by NIST and other agencies of specific activities that benefit the U.S. general public interest and fall within agency authority.

We support targeted financial support for activities that address broad-based standards needs. These include: training and education, export promotion activities, and facilitation of online access to information about standards and standard-setting activities. Moreover, ITI also supports full and fair payment of dues to ANSI by the U.S. Government to reflect the direct benefit that agencies receive from participation in the standards system. We oppose, however, open-ended federal government subsidies to support standardization in the private sector, including the American National Standards Institute.

2. **U.S. standards policies must support diversity and decentralization**

Standards policy in the U.S. must support continued private sector leadership in standardization in response to market forces. Responsiveness to market forces is best achieved when standardization is performed and guided by the affected parties. This leads naturally to sector-specific approaches and to a mix of formal, consensus, and de facto mechanisms for standards development.

The resulting diversity of the U.S. system allows standardization to meet market-driven requirements efficiently. As the National Academy of Sciences found in its report; "Standards, Conformity Assessment and Trade: Into the 21st Century" in 1995, there is solid evidence to indicate that decentralization and diversity in the standards system is a key contributor to the strength of the U.S. economy.

Decentralization of the system requires orderly and rapid information transfer among all constituencies involved in the process. It is necessary for standards which have been completed and those under development to be accessible to all interested parties. It is also necessary to allow for coordination of standards activities on a national scale, where necessary. Increased information transfer by electronic means should be a cornerstone of a U.S. national standards strategy.

We recommend public and private investment in using information technology to increase the efficiency of U.S. and international standardization and its accessibility to all parties, in particular, small firms. This work should also include a focus on increasing the participation of all stakeholders in national standardization activities. Strengthening dissemination of standards information must also be achieved through efforts to speed the introduction of standards and reduced costs in standards development.

3. To enhance U.S. international competitiveness, U.S. standards policy must include an emphasis on close public and private sector cooperation

We recognize that the decentralization of the U.S. standardization system poses challenges in communication and coordination, especially regarding international standards policy issues in forums such as in ISO, IEC, ITU, and WTO. For this reason it is very important that the private and public sector work together as partners in standardization to enhance U.S. international competitiveness.

Promoting competitiveness does not necessarily mean promoting "U.S. standards" or "U.S. technologies" into international standards. U.S. firms must be able to retain the ability to build products to all kinds of standards in response to market demands. Customers worldwide should be free to buy those products that best meet their needs, regardless of their origin or the standard to which they were produced.

U.S. Government cooperation with the U.S. private sector has been instrumental in helping to promote the U.S. model of standards development overseas. For example, involvement of the U.S. Government through the Department of Commerce, USTR, Department of State, among other agencies, participated in the planning for the Global Information Society Conference in Brussels, Belgium in October 1997 helped ensure that the conference took a positive, market-oriented stance toward electronic commerce standardization.

In addition, we believe that health, safety, and environmental aspects of standardization have broad international trade impacts. We need strong policies to prevent government use of conformity assessment requirements and technical regulations from creating trade barriers.

Many agencies of the U.S. Government have key roles in promoting U.S. competitiveness in global markets through standards policy. ITI values these activities highly and encourages continued strengthening of private-public cooperation in these areas. To facilitate even closer public sector cooperation and assistance in meeting standards goals, we believe that consideration should be given to federal legislation to protect and encourage government officials work in support of our national standards system.

Examples of key U.S. Government roles include, among others:

U.S. Trade Representative:

- Provides leadership for the United States on all aspects of international policy matters related to international trade, including leadership in all multilateral, regional, and bilateral negotiations regarding trade.

- Works closely and successfully with U.S. private sector to reduce technical barriers to trade in multilateral and regional trade forums, such as the WTO and APEC, and in response to bilateral trade issues related to standards and technical regulations.
- Leads for the United States government in all international trade discussions with foreign governments, including all negotiations for the U.S. in World Trade Organization (WTO) discussions of the Technical Barriers to Trade Agreement--which will be crucial if and when the Agreement is revised in any new multilateral trade round.

Department of Commerce/NIST:

- Works closely with U.S. standards organizations in seeking ISO, and IEC managerial, administrative, and policy reforms,
- Is responsible for international arrangements related to legal metrology,
- Chairs Interagency Committee on Standards Policy, which provides a mechanisms for alerting U.S. agencies to the availability of international standards to meet their objectives,
- Operates the U.S. notification point for the WTO Technical Barriers to Trade (TBT),
- Conducts programs to educate officials in emerging markets about the U.S. standards system,
- Works to facilitate implementation of Mutual Recognition Agreements (MRAs), laboratory accreditation through the National Voluntary Laboratory Accreditation Program (NVLAP), and understanding of the benefits of supplier's declaration of conformity to technical regulations.

Department of Commerce/International Trade Administration:

- Leads U.S. Government export promotion activities,
- Could play a stronger role in providing education and materials about standards to public and private sectors in overseas markets.

Regulatory agencies (e.g., Federal Communications Commission, Food and Drug Administration, Occupational Safety and Health Administration, Environmental Protection Agency):

- Participate in U.S. interagency coordination of standards policy,
- Many agencies could play a much stronger role in international dialogues on trade facilitation, including removing duplicative conformity assessment requirements and other barriers to trade.

Department of State:

- Coordinates with private sector to develop and represent U.S. positions in the ITU
- Should work within ITU to encourage further evolution of ITU standards development to a process that is more like that of the private sector

4. U.S. standards policy and government priorities should focus on removing barriers to trade in regulations and technical barriers to trade in information technology.

In the area of mandatory technical regulations and conformity assessment, there is a need for strong cooperation between the U.S. Government and the private sector to facilitate trade by eliminating assessment requirements. Design specifications, duplicative testing, overly burdensome certification, and unnecessary quality system registration, while adding no value, add to the costs paid by consumers and delay the deployment of products and services to the people who need them. The U.S. Government and private sectors should cooperate with their counterparts worldwide to remove these barriers.

Supplier's declaration of conformity to international standards is the least trade-restrictive means of meeting public needs such as protection of health and safety. It allows for the greatest efficiency in producing products and services for global markets, and it requires the least investment in costly, frequently duplicative testing and certification infrastructures worldwide.

A critically important element of U.S. standards policy is for the U.S. Government, led by USTR with support from NIST and U.S. regulatory agencies, to work through the WTO and other forums to facilitate trade and foster more efficient regulation.

To facilitate export of U.S. goods, the U.S. Government should work to promote the acceptance of supplier's declaration of conformity (SDoC) to mandatory technical regulations. In sectors where internationally accepted standards or suites of standards are available, such standards should serve as the basis for technical regulations.

It is also critically important that U.S. regulators adopt an approach consistent with the one standard, one test, supplier's declaration of conformity concept. Without changes within the Federal Communications Commission (FCC), and Occupational Health and Safety Administration (OSHA) to allow for supplier's declaration of conformity, our international trade facilitation goals in the U.S. will be extremely difficult to achieve.

Conclusion

In sum, we believe that the U.S. standards system has been extremely successful in meeting both public and private sector needs. The policies which have driven this success are based on: (1) private sector-led standards development policies and programs, (2) rapid responses to other nations' standards strategies, and (3) aggressive efforts to remove technical, regulatory, and standards barriers to global trade.

We believe that an open discussion of the benefits, costs and trade-offs involved in national standards policy should facilitate enhanced effectiveness of standardization efforts. We strongly support the overarching principles stated above as the foundation of our national standards development.

Raymond G. Kammer
Director, National Institute of Standards and Technology

Please note that we finally got a chairman for a session who can keep us on time! I was confirmed by the Senate last November, and I expect that I'll be the Director of NIST until the year 2000, until the next election, so I have three years or a little more than that, maybe, to see what I can accomplish. When I approached the NIST staff, I set out five challenges that I hope to bring to conclusion during my tenure as director. The second one was to ensure full and free access for U.S. companies and U.S. technology to international standards. Now that is an objective that I obviously cannot fulfill alone. I think I can help - I can be a mediator, but I think it is a very important objective for the health of the U.S. economy.

Over the last five months, since last April, I have met with the ANSI Board at ASTM, and have met with many of the key SDOs and a lot of the industry representatives who are concerned with these issues, with many people who are here today. They have identified many issues - and interestingly enough, all of them have been discussed today, so I must say that we're doing a very good job of airing the issues. One of the items that came up pretty consistently is that people are very aware of ANSI's financial situation. It's very precarious. I'm amazed that Sergio still has as much hair as he does, and I'm envious. I think that there is a national interest that justifies government funding. Clearly, Ollie is right: the money ultimately comes from individuals in the form of the money you pay for goods and services and the money you pay in taxes.

I think that the purpose of financial support from the government should be to facilitate access to international standards-making. In my mind that includes the ISO and the IEC dues and the other costs that it takes to get us to the international fora and keep us there. So I've been working with my bosses to see if I can persuade the important people that this is a good idea, and the Department of Commerce has given me strong support. We are now talking with the folks at OMB, and if we succeed in persuading them, and I believe we will, we will then have to persuade Congress - that's the House and the Senate Appropriations Committees and the House and Senate Authorization Committees. I think that is the process - Ollie had a point about the government being somewhat unreliable. There are definitely many examples of the government committing very deeply to something, then walking away from it. In some respects the arduousness of the process in Congress is a helpful thing. The House Science Committee, which is the authorization committee for NIST, has legislated on voluntary standards three times, I think, in the last couple of years, and the leadership of the House Science Sub-Committee, to which we report, is very interested in this idea. I suggest that one possibility for providing more reassurance is observing in legislation that this is the appropriate thing to do. That's how Congress sets policy, and Congress tends to follow their own laws once they finally are persuaded. This is one of the things in my mind, and I intend to work on it with Congress this winter.

The dollar amount that I have been proposing to people for support that would be passed to ANSI - in the form of a grant - would be about 4 million dollars. The reason that I suggest a grant is important. The government has only two ways to give you money, one by entering into a contract,

and if we enter into a contract with you there are many rules for you to follow: hiring practices, how you travel, how you report to us. It's awful, and it's very unpleasant for us in managing, as much as in being managed. It's much cleaner with a grant. If progress is satisfactory, we proceed as planned or maybe make mid-course corrections. In the circumstances we're discussing here, this would be a much more appropriate way to proceed. I think that the sort of prescriptive approach that the government often uses just wouldn't work in this arena. So with that, back to you Mr. Chairman.

Question and Answer Period

Guido Guertler, Siemens: I am working with Marina Martish from NAM in the TABD on conformity assessment procedures, and together with Henry Line as co-chair of the Industry Cooperation on Standards and Conformity Assessment. I would like to make a statement concerning Europe. The European harmonization of standards claimed today in many cases also opens up for easier imports; we should not neglect that. And now my question concerning the ISO, ANSI, the American national and the global standards systems. My question is to all of us. If we agree that the ISO and IEC system should be changed in order to better meet the global market needs, and if we all agree that business is globalized, and if we say that industry has a major role in standardization, then the question is why shouldn't we jointly, I mean just jointly between the United States and Europe, strive for a re-engineering of ISO and IEC structures and procedures, including financial schemes, including transposition schemes, and being based on a sectoral approach. Could that be part of the U.S. national standards strategy?

Mr. Smoot: Well, I think that that's exactly what I was suggesting, probably much more articulately stated because you can't just patch onto the ISO or IEC structure that the TC should be set free. You need to actually do a re-engineering so that the whole thing works in a new but optimal way.

Questioner: Malcolm, with respect to the electrical systems and our electrical safety system, we already started a dialogue with our European counterparts. We had a meeting in July that was very helpful because it was clear that we didn't understand the European system, nor did the Europeans understand our system. The system has many components; the products are one part, the certification of products, the conformity assessment, and the whole installation practices and all of the inspectors and so on. So these things are important to an understanding of the differences. More directly to your point, I would think that there would certainly be within our industry a willingness to try to make IEC, in our case, much more responsive to industry needs. There is ready recognition that a number of changes need to occur, and IEC has been striving to make some of those changes, but unfortunately they are not occurring fast enough or radically enough to satisfy our interests. But we should work together to try to improve the IEC to be more responsive to industry needs.

Mr. Hermann: Let me respond as ANSI Chairman of the Board. I believe that the Board of Directors would respond very, very favorably to a comprehensive re-engineering of ISO and IEC procedures that we could in good conscience write down, that we could join together and do. I think that we would welcome the opportunity to do that. I do not think that we yet know precisely where we wish to go together, so we need to get that straight, but there is a strong sentiment that the world is not right now, that we need to do some re-engineering at the international level, and the notion of the U.S. and the Europeans finding a mechanism by which we would work together to do that re-engineering would be favored by us overwhelmingly. So I think that we should find a way to follow up on that, but it certainly would help the U.S. I believe in formulating a strategy to have a cooperative venture with European colleagues in re-engineering at the international level. Thank you, thank you for the proposal and we need to find how to translate that into action. We will take some

part on our society to do so, and if there are other mechanisms that you have in mind, we can work off-line, and thank you very much. All right, thank you

Gerry Peterson, Lucent Technologies and Chairman of Standards Committee T1, which is the telecommunications sector: I would like to bring to the surface here at this time the importance of applying these same skills and attentions to the globalization of standards in the telecommunication sector, particularly the International Telecommunications Union. That is one of the labels we haven't heard very often today, but it's clearly one of the important labels. It has a fundamental twist to it that I think I would ask a question perhaps openly or perhaps specifically to Ray. That is, where the telecommunications sector would benefit wholly from the same offers to help ANSI become a stronger national process, but as I hope most of you know, the national process for the ITU is with the Department of State. So, I would ask Ray if in the process of looking at ISO and IEC if there could be some benefits derived from working with the Department of State and with ANSI, which, of course, ANSI and other organizations are doing to try to expand the horizon of objectives to include the ITU in these same kinds of programs.

Mr. Kammer: My thought for the next few steps includes the notion of reaching out to the rest of the governmental entities that are interested, USTR and State being significant among them, also, Agriculture and Treasury, and see if they are willing to join with us in this discussion. Whenever I am writing my own notes on what I see as the international targets, I always write all three, that is ISO, IEC, and ITU. I agree with a number of the folks who said just now that we need to set our priorities according to the marketplace and the opportunities. Communications is one of the big ones. I think we have to respond to that.

Mr. Termaat: We've talked a lot about revenue today, but we haven't talked about cost. In our industry we certainly have had to do both. We reduce prices, not because we particularly like to but that's the way the real world operates. There has really been no conversation about that here. What are the opportunities for taking cost out in two areas, one in the distribution of standards, and secondly in, frankly, mergers, partnerships, and acquisitions among SDOs?

Mr. Kaufman: This isn't the first time Keith and I have talked about this, as you might suspect. There are a lot of things that the SDOs can do and we need to do. I am happy to say that SAE has joined in a couple of partnerships, through MOUs, with ASTM and with the American Society of Agricultural Engineers to look at forming joint committees, trading documents, eliminating committees that duplicate each other. In the first year of these MOUs we've had some successes with ASAE, we've merged two committees into one. With ASTM, we're in the process of trading some documents right now and eliminating some documents. They're small steps, granted, but they're in the right direction. I think it's imperative that all the SDOs take a look at who they can partner with. I agree that the industry cannot afford a lot of duplication of effort and redundant standards work.

Mr. Hermann: Keith, I would say that since we're both on the Board of Directors of ANSI, we are also somewhat culpable here, that is, I believe that in the case of both distribution and taking cost out in general, not the mergers and acquisition part. I think that we have to put ourselves in the position

of forcing efficiency and the allocation of resources to propose and clearly identify purpose to consequences and objective to consequences and apply a rigor that I think we started in this program with Reuben saying that it's time to start writing in ink as opposed to pencils and erasers. So I think there are opportunities for us to be business-like or disciplined in our approach with both outcome excellence and cost as a factor of how to get there. I think we can do some of that. I think that may actually produce some stimulus for mergers and other efficiencies because of the discipline. I do not try to analyze whether 450 is just the right number of SDOs in various ways but its conceivable to me that it is one or two too many, I don't know. It is also true in my industrial experience that in mergers and acquisitions it is difficult to have a candid discussion in crowds this size.

Mr. Smoot: I'd like to say two totally different things. One is that in this discussion, as too often occurs, the words electronic distribution and free seem to get linked. Our industry basically doesn't believe in that because if that's true, electronic commerce will never work. I do agree with the thrust that electronic distribution in the standards area should remove a lot of cost because you simply don't have to print and transport all those words. Going back to my comments, whether you do it on paper or electronically or half way on a CD, it really should be the sector's decision as to what the price should be or whether the cost is paid by the user who gets the document or by the manufacturer who wants to establish the standard. I've totally forgotten what else you said. It was an extremely important point and I had it for a while. Maybe it will come back after a while. Sorry.

David Ling, Hewlett Packard: I just want to say that I really enjoyed Mr. Kaufman's comment about value and considering a motto, and also Ollie Smoot's comment about market relevance. I think those terms are in reference to the concept, the goal, of products designed once, tested once, accepted everywhere. With whatever funding model that we finally propose, I think it must encourage good behavior from everybody in its value chain - SDOs, Conformity Assessment, everybody that is involved in this value chain. For example, I'm not too sure we want a funding model that encourages developing more standards faster. It should be more standards that are relevant to the marketplace. That helps with product design once, tested once, and accepted everywhere. That's my comment and I want to make sure that we don't lose sight of the overall goal of what we are trying to achieve. Thank you.

"Mike": I think the conference has done a wonderful job of bringing together the right people to discuss some issues that needed to be brought to the surface. I think it is important to define some of these issues and it's brought together the right players to begin to sort them out. One of the questions I have is whether NIST's involvement in potential funding to attempt to create a more level playing field in international standards is to enable the United States to better articulate its technology positions. I am trying to figure out the relationship between giving 4 million dollars to ANSI and how that objective is achieved, so it would be interesting to get some more specifics as to what connects those two events.

Mr. Kammer: Well, ANSI is our representative to the ISO and the IEC, and we need to able to put on a good showing there. ANSI is financially strapped at the moment; things are not getting better at the moment, they're still getting worse. My hope and belief is that if we provide some financial relief, it

will give ANSI time to focus on what I see as its single most important objective, which is international representation, and begin to approach the issue in a way that leaves it free to set priorities rather than just be driven by the latest crisis. Others should comment on this, though.

Nancy Steorts: My question is to you, Ray Kammer. As you've heard today, one of the major stakeholders in the standards arena is the consumer, and it's a tough scenario, particularly when you have a financial situation where, frankly, there are no funds to provide for adequate consumer representation. As we are developing the national strategy now, do you see the potential of having government look at consumer representation from the appropriations side and target some funding so that there can be professional, effective consumer representation within the standards process that will do for the United States what is being done around the world? I know that this is tough, and I know that there are limited funds, but it would seem to me that we already have a couple of good models. The Food and Drug Administration has a very fine model where they are already mandated for consumer representation on their advisory councils. The Federal Reserve Board also has a very effective National Consumer Advisory Council. So, I would like to get your views on this. Is this possible, will this work, and how can we work together on that?

Mr. Kammer: Yes, I think it is possible, and I also don't imagine that there is any other source of money for consumer participation in international standardization from the United States. As far as how I think the government ought to set priorities in this area, I think that we should focus on the priority items that are identified by this community and respond to the items where there is a clear consensus and a strong signal from the people. If consumer participation becomes one of those, and certainly there have been some strong voices raised today in advocacy of it, then I would have no problems supporting it.

Mr. Hermann: Thank you.

Judy Gorman, IEEE: I hope I'm going to be able to say this as coherently as I believe it. We've been talking on and off about how sales revenue represents a real irritant in the system. In spite of the fact that that's true just from a running your business point of view, the fact is that we - meaning U.S.-based standards developers - we make tremendous technical contributions to the international arena. We're really functioning as technical suppliers who don't get paid, and while the dollars issue is an important one, I think even more important is our ability to stay in the revision process of the given standard. In other words, yes, we have a problem with the money not coming in, say, directly to an IEEE or an ASTM, but the money is linked to the disposition of the intellectual property once it's contributed into an international arena, and the intellectual property, once it leaves our domain, we lose the interest in our own U.S.-based committees to continue on with the work, and those people drop out completely or they move into the international committee. So, I guess where I'm driving with this is that I think we need to re-engineer the contribution arrangement, how we contribute into ISO and IEC so that we don't discourage U.S.-based standard activities to disband in favor of their international counterpart.

Mr. Hermann: Thank you.

Mr. Smoot: If there are no more questions, I finally remembered what my point was. I'm glad, because it was good. It's really excellent. It's one that Keith brought up. Why so many organizations? As in most things, we've done it to ourselves. For decades, it could be that the major reason why there were limited numbers of standards developers in the United States was that (my understanding - I have never read an actual history of this) at the beginning, our professional societies took on this challenge and for many years they did a very good job. Then, gradually, manufacturing sectors decided that their interests weren't being served, so they started forming standards developing organizations, principally in trade associations. The bias toward becoming ANSI-accredited was largely based, for them at least, to limit anti-trust exposure. Since about 1980, that fear has been reduced dramatically, largely for good reasons in my opinion. That is, the regulators have determined that there is very low anti-trust exposure if you follow ANSI procedures. So, the system was pretty stable until the Cooperative Research and Development Act was amended, which totally blew away the anti-trust concern and basically says that any two companies can get together for pre-competitive work, so we have almost no limitation on the down side. But what standardization as an accredited organization does is put overhead on the process. We don't have a positive emphasis to overcome the negative drag of the procedures, and the openness and all of that that we impose on ourselves. Now, I understand from Helen's talk, and also from other conversations with Europeans, that there are definite advantages to having your document recognized by your national standards body, or even better by CEN or CENELEC. So, if we're talking about a national standards strategy, and you want part of the standards strategy to be a focusing of work and a smaller number and more coherent set of bodies, we need to think of a set of incentives that would bring that about. Obviously, as an American lawyer, I can say, "Well, why don't we say that if you have an American, if you've built your product to an American national standard, in a personal injury suit there's no punitive damage exposure?" You know, talk to your lawyers, you can think of a lot of different incentives to build into this system, but I think the reason it's going the way it is now is that to do it the right way is more expensive and tedious, and you have no reason not to do it in a consortium, which is cheaper and easier.

Mr. Hermann: I've run out of time and I want to give the last word to Malcolm O'Hagan. Sorry, Greg.

Mr. O'Hagan: Actually, I have one comment. We seem to always be apologizing for the complexity of our system. We are a pluralistic society, and we have many sectors, and we are very sophisticated and advanced and complicated. I visit every year with my NEMA counterparts in Europe, and I always go over with this mind-set that I'm going over to interact with this monolithic group. Well, nothing could be further from the truth. I would venture that if you really examine Europe and all the countries that make up Europe - and we ought to be comparing the U.S. to Europe, not to Germany or France or individual countries - their system is much more complex in fact than ours. So, I don't think we should always be on the defensive about the complexity and pluralistic nature of the standards developing process. The Chairman was actually yielding on another point. To show our involvement, and it's one we're proud of, the current president of the IEC is the former president of NEMA. Fortunately he is with us today - Bernie Falk. I just wanted to recognize Bernie. I know he's been paying rapt attention to all the comments here. Bernie do you want to stand to be

recognized? Bernie's three-year term as president is concluding this year and the IEC will be meeting in Houston for its annual meeting for the first time in 25 years, so we're delighted about that and delighted that it's meeting at a time when Bernie is wrapping up his leadership of the IEC. Thank you Mr. Chairman.

Mr. Hermann: We will now adjourn and return here at 4:15. I want to thank all of the panel members for their comments. Thank you very much.

Mr. Dana G. Mead
Chairman and Chief Executive Officer
Tenneco
to the U.S. World Standards Summit
Washington, DC

September 23, 1998

Good afternoon and congratulations to all of you for your progress toward developing a national standards strategy. I don't need to tell this audience that it is important work – work that promises to go a long way toward improving U.S. competitiveness abroad and standards of living throughout the world.

I see some familiar faces here. In fact, looking out at this audience, I'm reminded of the fellow from Johnstown, Pennsylvania, who found himself face-to-face with St. Peter at the Pearly Gates.

St. Peter told him that his acceptance into heaven would be no problem – he just had to give the customary talk about an important experience in his life.

The fellow thought a moment and told St. Peter that the Johnstown Flood was just about the biggest thing in his life. St. Peter said that would be just fine. So he assembled the audience and introduced our friend from Johnstown.

As the man got up to speak, St. Peter whispered in his ear: "Oh, by the way, Noah is in the audience."

This is an audience filled with Noahs. NIST and ANSI have worked longer and harder than anyone to break the logjam of standards and certification that's been hindering trade between the U.S. and its trading partners – not to speak of creating a huge drag on product innovation and improvement.

So rather than offer you a dissertation on standards, today I'd like to give you my perspective and anecdotal experience – as one participant – on the critical need for a national standards strategy.

I'll do that by drawing primarily on my experience with the Transatlantic Business Dialogue, or TAB-D – why we exist and what we hope to accomplish, with the help of NIST, ANSI, and like-minded experts such as yourselves on both sides of the Atlantic.

Why does TAB-D exist?

Why is it that I can't play the VHS tape I've brought with me from Connecticut when I check into a hotel anywhere in Europe?

Why is it that gravely ill Americans too often have to travel to France or Germany to be treated with a drug or procedure that has not been certified by the US Food and Drug Administration?

Why is it that Europeans are as concerned with our genetically engineered vegetables as we are with Britain's beef?

During the past two weeks, Mark McGwire and Sammy Sosa have made headlines by hitting more home runs in a single season than anyone else in history. Today, as we discuss the need for a national standards strategy, I'm reminded of the man McGwire and Sosa surpassed -- Roger Maris, who in 1961 broke the single-season home run record held by Babe Ruth.

Maris has been getting a lot of attention these days, not just because of his record, but because of the way he was mistreated while earning it 37 years ago. Because Maris hit his record-breaking home run in the last game of a 162-game season, and Ruth hit his home runs in a 154-game season, Baseball Commissioner Ford Frick ruled in 1961 that Maris' mark was not an "official record."

For years, Maris' achievement was listed in the record books with a notation – baseball's infamous asterisk – explaining why it didn't measure up.

I don't need to tell all of you that the double standard imposed on Roger Maris in 1961 resembles those we face today selling U.S. goods and services abroad.

Just as Ford Frick chose not to recognize that a season record is a season record, governments around the world regularly choose not to recognize that the same standards for performance, product safety, environmental compliance, and many other criteria, are often as applicable in one nation as another.

Like Maris' home run production in 1961, our nation's production is too often branded with an asterisk, labeled something less than official, and effectively shipped back to the minor leagues.

My company, Tenneco, manufactures automotive parts and packaging. We make catalytic converters for the Ford Escort in eight different countries on three continents. Why is it that Ford's converter specs are basically the same everywhere, yet vehicle emission standards and certification requirements vary dramatically from country to country?

Everywhere we sell, we must adhere to very exacting specifications – and yet in virtually every country, those specifications are different, or interpreted differently, or applied differently.

In some cases, differing standards are the legitimate remnants of independent national standards developed at a time when international trade was far less prevalent than it is today.

However, in today's global economy, with formal trade barriers gradually being rationalized and knocked down the world over, differing standards increasingly are willful attempts to hinder trade.

They bring to mind the advice George Burns offered to a young actor. He said, "Kid, the toughest thing to master in this business is sincerity. If you can fake that, you can fake anything."

Nature abhors a vacuum, and as formal trade barriers are beaten down, many highly sophisticated, non-tariff barriers are popping up in their place –regulations, business practices, tortuous certifications, corruption – and of course, intentionally divergent standards.

They are invisible, deceptive, and more insidious than formal barriers – and a whole lot tougher to root out, as well.

The result is that, too often, we face markets with divergent standards and technical regulations – which often require duplicate certification and testing procedures.

Many businesses are deterred from entering markets; others who enter are hit with higher production costs that drain off resources which could otherwise be used for productive investment elsewhere. That damages a company's ability to compete at home and abroad. Ultimately, consumers lose out – in price, quality, and selection.

How do we tackle such a problem? In my view, we adopt a simple and universal goal: "approved once, accepted everywhere."

In order to do that while protecting U.S. interests in the process, we need a plan – a national standards strategy. And as we work toward that strategy, I believe TAB-D offers some valuable lessons for our consideration.

Let me set a context – Our trade relationship with Europe is particularly important for two reasons.

One is simply size – collectively, the EU is the world's single biggest importer and exporter. The EU and U.S. maintain the largest two-way trade and investment relationship in the world, with the combined areas accounting for about 55 percent of the world economy.

The second reason is simple pragmatism – because if we can't bring down trade barriers between the EU and the US – two areas with so much in common – we cannot expect to do so in areas where cultural and economic differences are much greater, in countries like China, Japan, and India.

How many know what TAB-D is?

Most of you are probably familiar with TAB-D: the original idea came from the late Commerce Secretary Ron Brown, who did so much to promote the concept of a public-private sector partnership.

The idea is based on the notion that trade issues are too important to be left to governments alone – that business people and professional organizations know better than anyone what the real impediments to trade are – and how to remove them.

And so for the past three years, a group of EU and U.S. business leaders has worked outside our respective governments to identify barriers to trade and investment.

That's a polite way of saying we "end run" entrenched government bureaucracies to figure out what's hindering trade across the Atlantic, then work together with our respective governments to reduce the barriers. We understand, however, that without government and the specialized agencies of those countries, we can only advise, cajole, press – but we cannot execute.

We see ourselves as a group of business people who are trying to bring down these trade barriers by talking directly to one another, business to business.

We also see ourselves, frankly, as a kind of pressure group – working from both sides of the Atlantic to intensify the focus on trade barriers wherever they are or in whomever's jurisdiction.

As business people, we see divergent standards as a perverse drain on our competitiveness – raising our costs of doing business to an unnecessarily high level.

We strongly believe we can eliminate these costs without compromising the legitimate and necessary oversight of governments in the areas of health, safety, and the environment.

For example, Tenneco's Packaging business makes dozens of different recyclable packages from many different materials, including paper, plastic, and aluminum. We sell these packages around the world.

The EU's recyclability markings differ substantially from those used in the U.S. and developed by the ISO. Not only are they different, but the EU will not accept U.S. markings on products within the EU. So at Tenneco, we are forced to build multiple dies in order to manufacture essentially the same product. This is no different from making a completely different product!

The objective is the same: recyclable packaging. But how we get to that objective differs between the U.S. and Europe. This is a case where we do not agree with that old French adage, "Vive la Difference!"

In fact, we don't see any reason why the means and the objectives should be different from one country – or one region – to the next, particularly in the context of the EU and the U.S. But they are.

And the barriers are not all on the European side of the Atlantic. We sometimes wrongly assume that the U.S. is an open, standardized market and that the Europeans need to become "more like us." As a Frenchman asked me, "Have you ever tried to get a product approved in California – a

state in which one city, L.A., requires 22 separate approvals in four jurisdictions just to operate a taxi!"

So we need to harmonize our standards and our testing and certification procedures. And in so doing, I believe we need to remember that our ultimate objective should be global in nature: "approved once, accepted everywhere."

Keep in mind, also, that we do not need mandatory testing for every aspect of all products. By and large, manufacturers use voluntary standards to ensure that customers know what is in a product and how it is built. If tests are required, there should be one standard and one test to that standard. We must do this to stay in business successfully.

TAB-D also supports "supplier declaration of compliance" as a valid alternative to third-party testing. Used within a framework of international guides and post-market surveillance – which should also apply to third-party testing – supplier declaration provides every bit as much confidence as third-party testing.

Through TAB-D, Business leaders support harmonization of national and international standards in the belief that global trade is best supported by standards that are agreed to on a voluntary basis and by international consensus.

I know this approach has been questioned by some – because U.S. standards will not always be accepted as the standard by international standard-setting bodies.

That may be so – which is exactly why we need a strong coordinated national standards strategy now, to make our case in the international arena for adopting U.S. standards as the international standards. That is also why we need a vigorous government-business partnership as we continue developing international standards.

TAB-D maintains that regional or national technical regulations at variance with those agreed upon by international bodies should be eliminated immediately and avoided in the future.

And instead of using or developing their own standards and technical regulations, individual governments should use international voluntary consensus standards – and in their absence, U.S. standards.

The TAB-D approach is working and has even greater future promise. A year ago, TAB-D prompted the EU and U.S. to conclude a Mutual Recognition Agreement – or MRA – that they had been negotiating literally for years.

The MRA affects more than $47 billion of transatlantic trade, and will lead to the elimination of duplicative testing, inspection, and certification procedures on both continents. It's a major step toward our goal of an "approved once, accepted everywhere" trade policy. It will result in earlier access to innovative products, lower costs, and ultimately lower prices. In short, it will grease the skids of transatlantic trade for years to come.

Social scientists like to point out that if you place a frog in a pot of hot water, it will jump out of the pot immediately. But if you place a frog in a pot of cool water and slowly heat the contents, the frog will remain in the pot until it is cooked.

All around us, the water is heating up. At times, the temperature change is imperceptible – at times we feel it, but choose to do the easy thing and remain where we are. In either case, I suggest it is hotter than we realize.

In the years ahead, as international trade becomes an increasingly important component of the global economy, the challenges posed by divergent standards will become ever more difficult to solve.

Already, foreign competitors and regional trading blocks too often develop standards to their advantage – and use them either to shut out U.S. companies or force them to endure costly regulations, testing, and design changes.

Our best defense is to present a united front, a unified national standards strategy which protects our interests while working inexorably toward a simple and universal goal: "approved once, accepted everywhere."

Our task will not be accomplished overnight. But we cannot afford to do the easy thing and remain where we are. If we don't get the better of ourselves, someone else will.

Thank you.

APPENDIX A

Biographies of Speakers

George W. Arnold

George Arnold is presently Director of Standards and Intellectual Property for Lucent Technologies and Bell Laboratories. Since joining Bell Labs in 1973, he has held a wide range of technical and managerial assignments in research and development, including product planning and systems engineering, system development, quality management, and process re-engineering.

Dr. Arnold is responsible for Lucent Technologies' standards activities globally and for providing direction to over 300 professionals who participate and/or hold leadership positions in 81 standards organizations around the world. Dr. Arnold is a member of the ANSI Board of Directors, Chairs the ANSI Asia/Pacific Regional Standing committee and the Company Member Council Executive Committee Telecom Caucus, and he serves as one of the U. S. sector managers for the Trans-Atlantic Business Dialogue.

Dr. Arnold was educated at Columbia University, where he received his BA, BS, MS and Engineering Science Doctorate degrees from 1972 through 1978. He is a member of the Institute of Electrical and Electronics Engineers and has published papers in the fields of computer science, data networking, factory automation, product development and process re-engineering.

gama NEWS
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Biographical Sketch

C. REUBEN AUTERY

C. Reuben Autery was named President of the Gas Appliance Manufacturers Association in May 1988. As president, he administers the affairs of GAMA, a national trade association representing manufacturers of residential, commercial and industrial gas appliances, equipment and components, as well as manufacturers of equipment and providers of services used in the production, transmission and distribution of fuel gases.

He is a member of the Board of Directors of the American National Standards Institute, Past Chairman of the International Accreditation Forum, Chairman of the QSAR Board and Past Chairman of the Organizational Member Council, a member of the Association Committee of the Chamber of Commerce of the United States, and a member of the Associations Council of the National Association of Manufacturers.

Autery is a native of Liberty, Texas, and holds B.A. and Doctorate of Law Degrees from Baylor University in Waco, Texas. He is a licensed attorney in the state of Texas.

Prior to joining GAMA, Autery had a thirty-year Air Force career in which he had broad experience in high level command and staff assignments. He is a command pilot with experiences in several types of aircraft.

Reuben and Charlottee Autery have two grown children. They reside in Dunn Loring, Virginia.

UNITED STATES DEPARTMENT OF COMMERCE
The Under Secretary for Technology
Washington, D.C. 20230

GARY R. BACHULA

Gary Bachula is the Under Secretary for Technology (Acting) at the U.S. Department of Commerce's Technology Administration. Mr. Bachula oversees the work of the Office of Technology Policy, the National Institute of Standards and Technology, and the National Technical Information Service.

The Office of the Under Secretary also provides advice and assistance to the Secretary of Commerce for the formulation of new policies and program initiatives for science and technology policy matters. In this capacity, the Technology Administration assists in the development and promotion of Federal technology policies to increase U.S. commercial and industrial innovation, productivity, and economic growth.

Mr. Bachula serves as the Department of Commerce representative to the Committee on Education and Training of the National Science and Technology Council.

With both a B.A. in economics and a law degree (J.D.) from Harvard, Mr. Bachula served as Chief of Staff to U.S. Rep. Bob Traxler of Michigan from 1974 to 1986, where he advised the Congressman on appropriations for NASA, EPA, the National Science Foundation, and other federal agencies.

From 1986 to 1990 he worked for Michigan Governor James J. Blanchard, serving as Chairman of the Governor's Cabinet Council. The focus of the Cabinet Council was to "reinvent" Michigan's job training and education programs.

Mr. Bachula also served as Vice President for Planning and Program Development for CIESIN, the Consortium for International Earth Science Information Network. CIESIN is federally-funded project to integrate and extend the value of current and future U.S. environmental data collection efforts (satellite and on the ground) to a broad array of applied users.

A native of Saginaw, Michigan, Mr. Bachula is a 1964 graduate of Saginaw High School, was named Saginaw High's Distinguished Alumnus in 1990. He served at the Pentagon in the U.S. Army during the Vietnam war.

GUY THOMAS CASTINO
President
Underwriters Laboratories Inc.
Northbrook, Illinois

Tom Castino is president and chief executive officer at Underwriters Laboratories Inc. (UL).

Mr. Castino joined UL in 1960 at the Chicago, IL office as an assistant engineer in the Fire Protection department. One year later, he was promoted to project engineer. In 1964, he transferred to Santa Clara, CA to establish fire protection testing of building materials and, in 1967, became senior project engineer.

During 1968 and 1969, Mr. Castino served as a research associate for UL at the National Institute of Standards and Technology (NIST) (formerly the National Bureau of Standards) in Washington, D.C., where he studied measurements of smoke and related fire hazards. He returned to Northbrook, IL in late 1969 as an engineering group leader. In 1972, he was promoted to associate managing engineer, and to managing engineer of the Fire Protection department in 1974.

In 1980, he was named chief engineer of the Fire Protection division. The UL board of trustees elected him assistant vice president at its 1982 fall meeting, and in 1988 he was elected to executive vice president.

In 1989, the UL board of trustees elected him executive vice president and chief operating officer, and on April 18, 1990, he was elected to his current position.

Mr. Castino is a member of the board of directors of the National Fire Protection Association (NFPA). In 1992, he was appointed to the Center for Firesafety Studies board of advisors of the Worcester Polytechnic Institute (WPI). He became a member of the board of executive advisors to the College of Engineering and Engineering Technology of Northern Illinois University, DeKalb, in 1994. In 1995, Mr. Castino became a member of the board of directors of the Illinois Mathematics and Science Academy (IMSA). In April 1995, he was appointed a member of the U.S./Egypt Presidents' Council and completed one term in April 1997.

He is actively involved with numerous industry committees, including various sections of the National Electrical Manufacturers Association (NEMA), and chairs or co-chairs industry/UL policy committees. He is a representative in five sections of the International Association of Electrical Inspectors (IAEI). He is also a member of the Newcomen Society of the U.S. and the Economic Club of Chicago.

He is a past member of the board of directors of both the American National Standards Institute (ANSI) and the American Society for Testing and Materials (ASTM). He has also been active in committees of the following organizations: ASTM, Society of Fire Protection Engineers (SFPE), NIST (served as a member of the Center for Fire Research Assessment Panel), Intelligent Buildings Institute, American Society of

Mechanical Engineers (ASME), American Insurance Services Group, Planning Forum, National Academy of Sciences, and the U.S. Coast Guard.

Mr. Castino has received the NIST Research Associate Award, the ASTM Appreciation Award, and the Fire Protection Engineer's Salamander Award. In 1973, he received a UL Professional Engineer Award for leadership during the investigation of molded plastic for floor registers for heating and air-conditioning systems, and, in 1987, the UL Awards Committee Appreciation Award.

In 1986, he received the NFPA's Outstanding Service Award for his work as a member of its Standards Council. In 1988, Mr. Castino was made a Fellow of SFPE. In April 1991, he received the Joseph Finnegan Award, Chicago Chapter, from the SFPE for outstanding contributions and service to the profession of fire protection engineering. In May 1991, Mr. Castino received the SFPE President's Award which recognizes an individual SFPE member who has made an important and conspicuous contribution to the Society. In May 1997, he received the Margaret Dana Award for leadership and personal contribution toward the development and implementation of safety and performance standards for consumer products.

Mr. Castino earned a bachelor's degree in mechanical engineering from the University of Illinois at Urbana-Champaign in 1960, and has been a registered professional engineer in Illinois since 1972. In April 1997, he was accorded the honor of "Distinguished Alumnus" by the University of Illinois, College of Engineering.

Name: Arthur E. Cote, P.E.
Title: Senior Vice President and Chief Engineer
Affiliation: National Fire Protection Association
1 Batterymarch Park
Quincy, MA 02269

Mr. Cote is Senior Vice President, Operations at NFPA and administers all of the technical activities of the Association. This includes the following operating divisions: Codes and Standards Administration, Fire Analysis and Research, International Operations, Public Education and Codes and Standards Operations which includes Engineering, Public Fire Protection and Regional Operations.

He is responsible for the overall administration of the NFPA codes and standards development process, which develops the 312 fire safety codes and standards that comprise the National Fire Codes. Mr. Cote is editor-in-chief of the 18th edition of the Fire Protection Handbook; co-author of the 2nd edition of Principles of Fire Protection; and editor-in-chief of the 3rd edition of the Industrial Fire Hazards Handbook. He has had over 30 years experience as a fire protection engineer. Prior to joining NFPA in 1977, he held positions of vice president and chief engineer for an automatic sprinkler contracting company; supervising engineer in the engineering and loss control division of a major insurance company; and fire inspector for a fire insurance rating bureau. Mr. Cote is secretary-treasurer and Fellow of the Society of Fire Protection Engineers; a corporate member of Underwriters Laboratories, Inc.; a member of the Advisory Committee on Structural Safety-US Veterans Administration; charter member of the World Organization of Building Officials; and a member of the Standards Engineering Society.

Mr. Cote received his Bachelor of Science Degree in Fire Protection Engineering from the University of Maryland in 1965 and holds a Professional Engineering license in fire protection in the State of Pennsylvania.

Helen Delaney has worked in the standards field for 26 years. For seventeen of those years, she represented ASTM in Washington, D.C. and served as its global affairs director. In 1989 she established Helen Delaney Consulting Services and continued in the field as a private consultant, serving many distinguished clients in standards and standards-related fields in both the public and private sectors. In 1995, Ms. Delaney suspended activities in her consulting business, and from September 1995 to September 1998, served as the NIST Foreign Commercial Service Standards Officer to the United States Mission to the European Union in Brussels. On November 1, 1998, she will return to her private consulting practice. Helen Delaney Consulting Services is based in Bethesda, MD.

Dr. Richard E. Feigel

Current Title: Vice President, Engineering, The Hartford Steam Boiler Inspection and Insurance Company ("HSB").

Current Responsibilities: Dr. Feigel is responsible for engineering and corporate quality initiatives in service delivery, training, risk evaluation and loss prevention. He assists internal and external clients in defining and implementing cost effective risk management and engineering programs. He has been with the firm since 1977.

Previous responsibilities:

Since 1977, The Hartford Steam Boiler Inspection and Insurance Company. Prior to his current assignment, Dr. Feigel was responsible for HSB's research and development and mechanical integrity groups. In earlier assignments, he was responsible for the Engineering Services Division, which provides engineering consulting and inspection on a fee basis. During this time, he was personally involved in work in Europe and the Pacific Rim countries in addition to domestic projects.

1971 to 1977, various positions including Manager, Quality Assurance, Polymetal Manufacturing, a manufacturer of custom pressure vessels. Dr. Feigel also worked in non-destructive examination and welding.

Education:

Ph.D., Philosophy, Pennsylvania State University
M.A., Philosophy, Pennsylvania State University
B.A., Philosophy, Purdue University

Activities and Affiliations:

American Society of Mechanical Engineers
- Fellow and Senior Vice President
- Chairman, Council on Codes and Standards
- Past Chairman, Board on Council Operations
- Past Vice President, Board on Pressure Technology Codes and Standards
- Board on International Standards
- Boiler and Pressure Vessel Code Main Committee
- Past Chairman, Code for Pressure Piping

Welding Research Council Board of Directors
American Welding Society
American Society for Quality
Dr. Feigel has written numerous papers for journals and technical meetings.

Biography of

DR. ROBERT J. HERMANN

Senior Partner, Global Technology Partners, LLC

Global Technology Partners is a Washington D.C. based investment firm.

Dr. Hermann is also a Visiting Scholar at The Kennedy School of Government at Harvard and Senior Advisor to the Harvard-Stanford Preventive Defense Project.

Dr. Robert J. Hermann recently retired from United Technologies corporation where he was senior vice president, science and technology. In this position, Dr. Hermann was responsible for assuring the development of the company's technical resources and the full exploitation of science and technology by the corporation. He also had responsibility for the United Technologies Research Center. Dr. Hermann joined United Technologies in 1982 as vice president, systems technology in the Electronics sector and later served in a series of assignments in the Defense and Space Systems groups prior to being named vice president, science and technology at United Technologies Corporation in March 1987.

Dr. Hermann served 20 years with the National Security Agency with assignments in research and development, operations and NATO. In 1977, he was appointed principal Deputy Assistant Secretary of Defense for Communications, Command, Control and Intelligence. In 1979, he was named Assistant Secretary of the Air Force for research, development and logistics and in parallel was Director of the National Reconnaissance Office.

He received B.S., M.S. and Ph.D. degrees in electrical engineering from Iowa State University.

Dr. Hermann is a member of the President's Foreign Intelligence Advisory Board; the Defense Science Board; the National Academy of Engineering; Co-Chairman of the National Research Council Commission on Physical Sciences, Mathematics and Applications; Chairman of the Board of Directors for Draper Laboratory, and Chairman of the Board of Directors of the American National Standards Institute.

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January 1998

NIST Office of the Director

Mr. Raymond Kammer, Director

Raymond Kammer was nominated by President Clinton on September 4, 1997, to serve as Director of the National Institute of Standards and Technology. After being confirmed by the U.S. Senate, he took office on November 12. An agency of the U.S. Commerce Department's Technology Administration, NIST promotes U.S. economic growth by working with industry to develop and apply technology, measurements, and standards. As NIST Director, Mr. Kammer oversees a staff of approximately 3,300 and a budget of about $700 million. More than half of the staff is composed of scientists and engineers located at the NIST campuses in Gaithersburg, Maryland, and Boulder, Colorado.

Most recently, Mr. Kammer served on an acting basis as the Chief Financial Officer, the Assistant Secretary for Administration and the Chief Information Officer for the Department of Commerce. As Deputy Director of NIST from 1980 to 1991 and 1993 to 1997, Mr. Kammer was responsible for the day-to-day operation of the Institute and for long-range planning and policy development. The primary mission of NIST is to promote U.S. economic growth by working with industry to develop and apply technology, measurements, and standards. This mission is accomplished through four major programs:

- Measurements and Standards Laboratories focused on "infrastructural technologies," such as measurements, standards, evaluated data and test methods; and
- a competitive Advanced Technology Program that provides cost-shared awards to industry for development of high-risk, enabling technologies with broad economic potential;
- a grassroots Manufacturing Extension Partnership with a network of local centers offering technical and business assistance to smaller manufacturers;
- a highly visible organizational improvement program associated with the Malcolm Baldrige National Quality Award.

From 1991 to 1993, Mr. Kammer was Deputy Under Secretary of Commerce for Oceans and Atmosphere in NOAA. In that position, he served as NOAA's Chief Operating Officer and was responsible for overseeing the technical projects of this $2 billion agency which has a staff of over 14,000. NOAA has five major programs - the National Weather Service; the National Marine Fisheries Service; the National Environmental Satellite, Data, and Information Service; the National Ocean Service; and the Office of Oceanic and Atmospheric Research.

Mr. Kammer began his career with the Department of Commerce in 1969 as a program analyst. Prior to his appointment as Deputy Director of NIST, Mr. Kammer held a number of positions at NIST and in the Department of Commerce involving budgetary and program analysis, planning and personnel management. During his tenure as Deputy Director, he also held positions as Acting Director of NIST, Acting Director of the National Measurement Laboratory at NIST, and Acting Director of the Advanced Technology Program at NIST.

Mr. Kammer has chaired several important evaluation committees for the Department of Commerce, including reviews of satellite systems for weather monitoring and the U.S. LANDSAT program, and of the next generation of weather radar used by the U.S. government. He also served on the Board of Directors of the American Society for Testing and Materials, a major international society for the development of voluntary standards for materials, products, systems, and services.

His awards include both the Gold and Silver Medals of the Department of Commerce, the William A. Jump Award for Exceptional Achievement in Public Administration, the Federal Government Meritorious Executive Award, and the Roger W. Jones Award for Executive Leadership.

Mr. Kammer received his Bachelor of Arts degree from the University of Maryland in 1969.

BIOGRAPHICAL SKETCH

V. HERBERT KAUFMAN

Herb Kaufman currently is serving as Director of the SAE Technical Standards & Research Group. His staff team of 35 people supports 17,000 volunteers serving on over 700 technical committees which have developed over 6,500 technical standards.

Herb has worked for SAE for over twenty-one years. Prior to his current assignment, Herb served as Manager of the Technical Standards and Engineering Meetings Divisions. He previously held various staff positions at SAE in the Engineering Activity and Standards Development & Research Divisions.

Herb holds a Bachelor's degree in Mechanical Engineering. In 1989, he received the Certified Association Executive designation from the American Society of Association Executives.

Henry Line
Biographical Overview

Henry Line is Vice President of Global Product Standards for AMP Incorporated. Headquartered in Harrisburg, PA, AMP is the world leader in electrical/electronic connection devices. With sales of $5.75 billion in 1997, AMP employs over 45,000 people in 54 countries. In the U.S., AMP has operations in 15 states.

Since joining AMP in 1967, Mr. Line has served as Basic Product Manager, Manager of Product Engineering, Manager of Business Planning and as an analyst on AMP's corporate staff working in the area of strategic planning and acquisition analysis. He has been involved with various aspects of standards development for over 15 years including participation in a number of technical working groups of the International Electrotechnical Commission (IEC).

In his current position, Mr. Line directs the activities of a department of 28 full-time professionals who coordinate AMP's global standards-setting agenda and assure the broad participation of several hundred AMP technical representatives in over 500 standards development committees around the world. In addition, his department has oversight for AMP's commercial and military approvals. To intensify the global focus of these activities, AMP formed in 1991, at Mr. Line's urging, a global working group for standards to assure coordination of AMP standards activities around the world.

Mr. Line has authored several papers on the importance of standards and strategic standards management which have been presented in key conferences around the world and published in such journals as ASTM's Standardization News, DIN's Mitteilungen, FOCUS, (a publication of the National Center for Manufacturing Sciences), and Fortune Magazine. Conferences at which he has presented include the ANSI Annual Public Conference, AIC Conferencias in Mexico City, ASTM and ASME events, PA Chamber of Business & Industry International Trade Conference, and the American Textile Manufacturers Institute. In April of 1996, Line presented the Keynote Address at NEMA's Annual Technical Conference wherein he addressed the importance of standards in global market strategies and new product development. He has also testified before a U.S. Congressional Subcommittee on the importance of standards to U.S. competitiveness.

Mr. Line has served as Chairman of ANSI's Company Member Council Executive Committee, and currently, serves as Vice Chairman of the ANSI federation and Chairman of its International Committee. He is Co-Founder and Vice-Chair of the Industry Committee on Standards and Conformity Assessment. He is a member of the ANSI Board of Directors, the ASTM Board of Directors, the Board of Advisors of Penn State Harrisburg, and the President's Board of Advisors of Dickinson College. Since 1996, Line has served as a sector manager of the Transatlantic Business Dialogue.

Mr. Line's formal education includes a B.S. degree in physics from Dickinson College, a M.S. in physics from Arizona State University; a Masters in Engineering Administration from Penn State, and a M.B.A. from Shippensburg University.

CHARLES M. LUDOLPH
Deputy Assistant Secretary for Europe
MARKET ACCESS AND COMPLIANCE
International Trade Administration

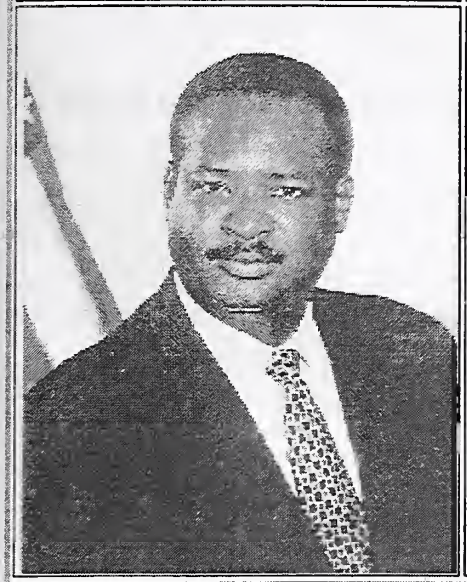
Mr. Ludolph is responsible for developing the Department's market access country desk trade and investment activities with Europe. Mr. Ludolph's organization routinely counsels more than 75,000 U.S. exporters a year on such matters as CE marking, metric labeling and other standards issues, service industry market access, worker and tax rules and the thousands of European rules that affect U.S. businesses. He is also responsible for assuring that U.S. businesses are aware of the conditions of market access in all European national markets. He attempts to assure market access for U.S. business, and is deeply involved in the Transatlantic Business Dialogue and implementation of the U.S.-EU mutual recognition agreements.

Since 1988, Mr. Ludolph chairs the U.S. government committee on Standards, Testing and Certification of the European Union which is charged with developing policy toward European standards initiatives and also chairs the U.S. governemnt Trade Promotion Committee working group charged with developing a national commercial export strategy for standards market access.

A career international economist with the Department of Commerce since 1971, Mr. Ludolph has served in every international program administered by the Department from export promotion to U.S. trade law administration. In 1980, Mr. Ludolph was Chief Economist for the Import Administration which implements U.S. anti-dumping and countervailing duty laws. In 1983, he took over Commerce programs concerning the European Union. He has been acting Commerce department Deputy Assistant Secretary for East, West, Central Europe and the Newly Independent States since May 1997.

Mr. Ludolph was born in Waterbury, Connecticut in 1946. He holds an undergraduate degree from Georgetown University as well as an MBA and DBA in international business from the George Washington University and is on the Dean's Council at the George Washington Business School.

Mr. Ludolph is married to the painter-artist Josephine Haden and resides in Arlington, Virginia.

Picture	Info
	Robert L. Mallett is Deputy Secretary, U.S. Department of Commerce, the second highest position in the agency. He was nominated by President William Jefferson Clinton on June 11, 1997, and was confirmed by the United States Senate on September 26, 1997.

DEPUTY SECRETARY ROBERT L. MALLETT

Robert L. Mallett is Deputy Secretary, U.S. Department of Commerce, the second-highest position in the agency. He was nominated by President Clinton on June 11, 1997, and was confirmed by the United States Senate on September 26, 1997. As Chief Operating Officer for the Department of Commerce, Mr. Mallett is responsible for the day-to-day operations of a cabinet-level Department within which there are nine agencies which collectively have 38,000 employees and a $5 billion budget. A representative sample of some of the diversity within the Commerce Department includes the International Trade Administration, the National Oceanographic and Atmospheric Administration, Bureau of the Census, the National Weather Service, the Economic Development Administration, the Patent and Trademark Office, the National Telecommunications and Information Administration, the National Institute of Standards and Technology, the Bureau of Export Administration, and the Minority Business Development Administration.

In addition to providing leadership and direction for the most diverse cabinet Department in the government, Mr. Mallett plays a lead role in promoting full market access for American companies in countries around the globe. He has a special interest in promoting small, medium-sized and women-owned businesses, both in international trade and in domestic procurement opportunities.

A member of Phi Beta Kappa and 1979 magna cum laude graduate of Morehouse College, Deputy Secretary Mallett studied law at Harvard Law School where he served as project director for the Harvard Civil Rights-Civil Liberties Law Review. After graduation, he clerked for the late John R. Brown, U.S. Court of Appeals for the Fifth Circuit. He later served for four years as Legal Counsel to former U.S. Senator Lloyd Bentsen.

Deputy Secretary Mallett has practiced law as an associate and as a shareholder at major law firms, and gained major management experience and an appreciation for the challenges facing state and local governments while serving as City Administrator for the nation's capital under Mayor Sharon Pratt Kelly.

Deputy Secretary Mallett is involved in many civic activities and serves on several boards, including the Overseas Private Investment Corporation (OPIC) and the National Kidney Foundation. He is Chairman of the Board of Governors of the Wesley Theological Seminary in Washington, D.C., and a member of the historic Asbury United Methodist Church in Washington, D.C., where he serves as an usher and was formerly Chairman of its Board of Trustees.

Deputy Secretary Mallett has served as an adjunct professor of law at the Georgetown Law Center and the Georgetown Graduate Public Policy Program.

Deputy Secretary Mallett resides in Washington, D.C., with his wife Terri Thompson Mallett and son Michael.

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SERGIO MAZZA
President and Chief Executive Officer
American National Standards Institute (ANSI)

Sergio Mazza was named President and CEO of the American National Standards Institute (ANSI) by its Board of Directors on November 29, 1993.

ANSI is a not-for-profit membership organization that brings together organizations from both the private and public sectors dedicated to furthering U.S. and international voluntary consensus standards and conformity assessments. ANSI accredits national standards developing organizations and approves American National Standards. It is the sole U.S. representative to the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC), via the U.S. National Committee.

Before accepting the position of ANSI President, Mr. Mazza was active as a software entrepreneur, most recently as President of DS Group, Inc. Mr. Mazza's corporate career included the position of President of Memorex Computer Supplies, where he also served on the boards of Memorex Technologies, Inc., U.S.A. and Memorex Copal Corp., Japan. Prior to that he was President of Memorex U.S.A.

Mr. Mazza holds a B.S. degree in economics with a dual major in finance and multinational enterprises from the University of Pennsylvania's Wharton School. He speaks four languages fluently, and has lived in seven different countries.

9/96

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TENNECO

Dana G. Mead
Chairman and CEO

Dana G. Mead is chairman of the board and chief executive officer of Tenneco. A $7 billion global manufacturing company, Tenneco is based in Greenwich, Connecticut. The company has operations in automotive parts (Tenneco Automotive) and packaging (Tenneco Packaging). Tenneco Automotive is the world's largest producer and marketer of ride control products and exhaust systems. Tenneco Packaging is among the world's leading and most diversified packaging companies.

Mead was named chief executive officer in February 1994 and chairman in May 1994. He joined the company in March 1992 as chief operating officer and a member of the board, and was elected president one month later. In September 1992, Mead assumed the additional posts of chairman and chief executive officer of Case Corporation. Mead stepped down as Case's chief executive in March 1994 and as Case's chairman in March 1996.

Before joining Tenneco, Mead was executive vice president and director of International Paper, last serving as executive vice president of the pulp and paper sector. He joined International Paper in 1978, was promoted to vice president, human resources, in 1979, and served as vice president and group executive of the white papers group from 1981 to 1986. From 1986 to 1989, he was senior vice president, printing and writing papers businesses.

Mead received his bachelor of science in engineering from the U.S. Military Academy, West Point, in 1957, and a doctorate in political science and economics from the Massachusetts Institute of Technology in 1967. He served with distinction in regular Army line armor and airborne units from 1957 until 1970, with tours in West Germany and Vietnam. In Vietnam, he received numerous combat and service decorations and achieved the rank of colonel.

Mead served in the White House from 1970-1974, first as a White House Fellow from 1970 to 1971, then as associate and deputy director of the Domestic Council from 1972-1974. Mead was a tenured professor and deputy head of the social sciences department at the U.S. Military Academy, West Point, from 1974 to 1978, when he retired from the Army.

Mead is chairman of the Business Roundtable and is past chairman and currently a director of the National Association of Manufacturers, the nation's oldest and largest industrial trade association. He serves on the board of directors of Textron Inc., Pfizer Inc., Zurich Insurance and Zurich Life Insurance companies, and Unisource Worldwide, Inc., in addition to Newport News Shipbuilding, a former Tenneco subsidiary. He is also a trustee of the George C. Marshall Foundation Board.

He is past chairman of the U.S. delegation of the Transatlantic Business Dialogue, a member of the Business Council, as well as the American Society of Corporate Executives, and is a Presidential Commissioner on White House Fellowships, and a Trustee-At-Large for the Association of Graduates, U.S. Military Academy, West Point. Mead is also a member of the Massachusetts Institute of Technology Corporation as well as its Political Science Visiting Committee, its Nuclear Engineering Visiting Committee, and its Nominating Committee for Visiting Committees. He is the recipient of an honorary doctor of engineering degree from Stevens Institute of Technology.

7/98

NEMA
Setting Standards for Excellence

MALCOLM E. O'HAGAN
President

Dr. Malcolm E. O'Hagan was named President of the National Electrical Manufacturers Association in 1991. O'Hagan previously held the position of President of the Valve Manufacturers Association of America from 1981 to 1990

Prior to joining VMA, O'Hagan served in the Carter and Reagan administrations as Executive Director of the U.S. Metric Board, an independent government agency.

From 1973 to 1978, O'Hagan was the President of the American National Metric Council, a private, nonprofit organization that served as a planning, coordinating and information center for metric activities in the United States.

From 1968 to 1973, O'Hagan held a number of management and staff positions at Bendix Corporation. He earlier held the position of Senior Scientific Officer at the Institute for Industrial Research and Standards in Ireland.

O'Hagan, a naturalized citizen, was born and raised in Ireland, and holds a B.S. and M.S. in Mechanical Engineering from the National University of Ireland. He obtained his D.Sc. from George Washington University. During his doctoral studies he held a teaching fellowship at GWU and conducted his doctoral research at the National Institute of Standards and Technology (NIST). He is a recipient of the Distinguished Alumni Award from GWU.

O'Hagan is a member of the Board of Directors of the American National Standards Institute. He is also a member of the U.S. Government's Industry Functional Advisory Committee on Standards (IFAC 2). He served on the Boards of the National Association of Manufacturers, the Key Industries Association Committee of the American Society of Association Executives and the Cosmos Club, and is a past president of the Washington Industrial Roundtable. In 1987-1988 he served on Secretary of Commerce William Verity's Export Now Advisory Committee.

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Manufacturers Association

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Consumers Union

Publisher of Consumer Reports

R. DAVID PITTLE, Ph.D.
VICE PRESIDENT, TECHNICAL DIRECTOR
CONSUMERS UNION

Dr. Pittle joined Consumers Union as its Technical Director in October, 1982. He is well known as a lifelong consumer advocate.

Dr. Pittle has dedicated his career to the advancement of consumer interests and product safety. To this end, Presidents Nixon and Carter appointed him Commissioner of the U.S. Consumer Product Safety Commission, where he served for nine years. During his tenure, he demonstrated a particularly strong interest in problems associated with chainsaws, toys, lawnmowers, cancer-causing chemicals and upholstered furniture flammability.

He now resides in New York, where he is Technical Director of Consumers Union, publisher of *Consumer Reports*. In this capacity, he supervises the nation's largest consumer testing laboratory. He is directly responsible for ensuring the accuracy and objectivity of CU's assistance to consumers for the purchase and use of products and services. In addition, he directs the technical support of CU's advocacy before Congress, state legislatures, and various federal administrative agencies.

Dr. Pittle's commitment to enhancing the role of consumers has included local communities. Over the years, he actively promoted and helped organize citizen action consumer groups to advance consumer awareness and efficacy in solving consumer problems.

Dr. Pittle received his B.S. degree in Electrical Engineering from the University of Maryland, and his master's and doctoral degrees from the University of Wisconsin. In addition to his work with Consumers Union and the U.S. Consumer Product Safety Commission, Dr. Pittle taught electrical engineering at the University of Wisconsin and Pittsburgh's Carnegie-Mellon University. He has also worked as an engineer with, among others, the U.S. Army and the Goddard Space Flight Center in Maryland

The author of numerous articles in professional publications, Dr. Pittle has received a number of awards, including the Philip Hart Public Service Award and the Federal Executive Boards Award for Outstanding Public Service in Consumer Protection. He is a member of a wide range of engineering and consumer organizations, and continues to strive for a marketplace that is fair and safe for consumers.

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Curriculum Vitae
of
Ronald H. Reimer

Ronald H. Reimer is Program Director for Industry Standards and Product Regulations with Rockwell Automation, Rockwell International Corporation. In this corporate staff position, Mr. Reimer coordinates the worldwide product standards and regulatory compliance activities of Rockwell Automation.

Mr. Reimer is 60 years old, married, has four children and is a resident and native of Wisconsin, USA. He holds a Bachelor of Science and Master of Science Degrees in Business. His education, work and management experience centers around high technology fields – specifically in aerospace electronics, computer control systems, control systems software, and standards - product regulations management.

Prior to joining Allen-Bradley, Mr. Reimer headed a regional systems integrator, software designer, and panel shop operation. Prior to this original equipment manufacturer operation, he was in production engineering and field service management on the Apollo, Titan, and other space and military programs with the aerospace electronics division of a major corporation. Mr. Reimer served in the US Marine Corps.

Continuing over thirty-one years of leadership in industry, Mr. Reimer's duties include serving as President of the United States National Committee of the IEC. Among his international capacities are as the US member of the IEC Council, a member of the IEC Council Board, and a member of the six - person IEC/CENELEC Management Coordination Group. He is an officer or member of the US Technical Advisory Groups for IEC and ISO technical committees and subcommittees covering electrical aspects of machinery, process control and measurement, industrial communication, and industrial automation.

Mr. Reimer is a member of the Standards Working Group of the Joint US Department of Commerce - Russian Ministry of Foreign Economic Relations, Business Development Committee. He is a member of the US Department of Commerce Business Development Standards Working Groups between the US and Argentina, and is the chairman of the US-Brazil Standards Working Group. He is a member of the US Federal Advisory Committee to the Secretary of the Department of Commerce on European Community Common Approach to Standards, Testing and Certification. As an International Director and Board Member of the International Society for Measurement and Control - ISA Standards & Practices Board, where Mr. Reimer helps manage the international standards writing activities of the Society. He is a member of the American National Standards Institute Board. Mr. Reimer is an member of the US National Electrical Manufacturers Association - NEMA Board of Governors Committee for Standards Policy and a member of the NEMA International and Regional Standards Committee. He is an individual member of ASTM, IEEE, ISA, National Fire Protection Association, Standards Engineering Society and a senior member of the Computer and Automated Systems Association of the Society of Manufacturing Engineers.

Mr. Reimer is his Company's Voting Representative at NEMA, the Rockwell Automation First Representative in the Electronic Industries Alliance - EIA, the Member Contact in Measurement, Control and Automation Association - MCAA, and is the Company Member Representative in the American National Standards Institute, ANSI.

* * *

August 1998

BIOGRAPHY FOR
GERALD H. RITTERBUSCH

Gerald H. Ritterbusch is Manager of Standards and Regulations for Caterpillar Inc., Peoria, Illinois, USA. He is accountable for Caterpillar's strategic standardization program. This program ensures that Caterpillar staff actively participate in standards development projects in all areas of the world to ensure that appropriate standards are developed for products produced by Caterpillar. He is responsible for determining government rules and requirements applicable to Caterpillar Products; and working with government bodies to ensure that promulgated rules and requirements are technically valid. He determines applicable certification requirements for Caterpillar Products. He is accountable for ensuring that certification necessary to meet government rules and requirements is conducted. He identifies and works with certification bodies to ensure, that as required adequate documentation, and any product testing is conducted to meet the requirements. He is accountable for the Engineering Standards and Services to support Caterpillar Product Groups Worldwide. He is also accountable for providing the technical support for product litigation instituted against Caterpillar.

Mr. Ritterbusch is Chairman of the International Organization for Standards Technical Committee 127 - Earthmoving Machinery, and its Subcommittee 2 - Human Factors and Safety.

He is a member of the American National Standards Institute (ANSI) Board of Directors, its Executive Committee, and its International Advisory Committee; and is Chairman of the ANSI Board Committee on Conformity Assessment. Mr. Ritterbusch is a member of the National Council for Laboratory Accreditation Board. He is a member of the American National Standards Institute-Registration Accreditation Board (ANSI-RAB) National Accreditation Program (NAP), Joint Oversight Board. He is chair of the ANSI-RAB, NAP, Environmental Management System Council.

Mr. Ritterbusch has served on a number of Society of Automotive Engineers' standards and conformity assessment bodies, such as Chair of the Construction and Agricultural Machinery Council, Technical Standards Board and Technical Standards Board International Harmonization Committee.

He has served on the National Academy of Sciences, National Research Council Committee on Standards, Conformity Assessment and Trade into the 21st Century. In addition, Mr. Ritterbusch has presented testimony on several occasions to the USA Congress House of Representatives Subcommittee on Science and Technology. Mr. Ritterbusch is currently active in the industry trade association work, and has previously served as the Chair of the Technical Council of the Equipment Manufacturers Institute.

Mr. Ritterbusch has been with Caterpillar since 1963 after receiving a Bachelor of Science Degree in Mechanical Engineering from Washington University, St. Louis, Missouri, USA. After holding several positions in the USA in after-sales service operations, he continued this work for five years in Europe. Upon returning to the USA, Mr. Ritterbusch held various engineering positions until assuming his present position in 1986.

MICHAEL SCHAGRIN is the Standards Program Manager for the United States Department of Transportation's Intelligent Transportation Systems Joint Program Office. Mr. Schagrin has been with the US DOT for the last 6 years, first working on the development of a national ITS architecture and now heading up a program for expediting the development and implementation of volunteer standards for ITS applications. Mr. Schagrin is also chair of the US Technical Advisory Group to ISO TC 204. Prior to joining the US DOT, Mr. Schagrin worked for the US Department of Defense on the application of state-of-the-art technology for Navy combat systems.

Mr. Schagrin holds a B.S. in Mechanical Engineering from the University of New Hampshire and an M.S. in Systems Engineering from George Mason University.

OLIVER REED SMOOT, JR.
"Ollie"

Oliver Smoot is Executive Vice President and Treasurer of the Information Technology Industry Council located in Washington, DC. ITI is a trade association promoting the global competitiveness of leading information technology companies. At ITI, he also manages the Council's policy programs in technology, standards and statistics.

Ollie is the first Chair of the Information Infrastructure Standards Panel, formed in 1994 to assure that the standards to support information infrastructures exist. From 1993-1997 he chaired the North American Interoperability Policy Council. He is Vice Chairman of the Board of the American National Standards Institute, Chairs ANSI's National Issues Committee and is a member of ANSI's Executive and International Committees. He chaired its Organizational Member Council from 1995-1997.

Smoot chaired the Section on Science and Technology of the American Bar Association in 1989-1990 and from 1991-1997 was an ABA member of the National Conference of Lawyers and Scientists. He was President of the Computer Law Association in 1991-1992. He has served on advisory panels on information technology policy issues to the Department of Commerce, Office of Technology Assessment, the National Research Council and the Office of Management and Budget. A member of the Association for Computing Machinery, he currently serves on the US-ACM Committee. He is a member of the *Privacy and American Business* National Advisory Board.

Smoot is a graduate of the Georgetown University Law Center and the Massachusetts Institute of Technology in Economics.

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06/02/98

Keith B. Termaat
Ford Motor Company

Mr. Keith Termaat is Cross-Platform Closure Systems Manager for Ford Motor Company. He standardizes technologies and design configurations of movable body panels (i.e., door systems) across all global vehicle platforms and product lines. Closures are a US $2 billion commodity. He formerly led standards development and forecasted emerging standards issues. He continues to be a conduit to external organizations in support of trade, market and technology requirements. He is active in standardization policy and governance as chair of the ANSI Company Member Council-Executive Committee, and as a Director on the ANSI Board, including the Board Executive Committee. He is also a member of the SAE Technical Standards Board.

James A. Thomas
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James A. Thomas is president of ASTM, the world's leading developer and publisher of voluntary standards and related information for materials, products, systems and services.

Appointed to the position in July 1992, Thomas has devoted his entire career to ASTM, where he has served in various positions since 1972. His professional focus has been concentrated on association management and the issues facing voluntary standardization.

A native of Philadelphia, Thomas holds a bachelor of science degree in industrial relations and a master's degree in organization management, both from LaSalle University.

Mr. Evangelos VARDAKAS
Director DG III-B
Legislation, Standardization and Telematic Networks, European Commission

Mr. Vardakas, born in 1946 in Corinth (Greece), is a Mechanical and Electrical Engineer, graduate of the National Technical University of Athens. He followed postgraduate studies in standardization related disciplines at the Federal Institute of Technology (ETH) in Zürich, Switzerland.

Mr Vardakas' thirty years experience with all aspects of standardization started in 1968 when he was appointed as officer responsible for the procurement specifications of the Greek Navy.

In the 1970s he was instrumental in the establishment of ELOT, the Greek Standards Body and Greek member of ISO and IEC. He served as Deputy Managing Director of ELOT for seven years.

In January 1984 he was nominated Secretary General (CEO) of CEN, the European Committee for Standardisation. He guided CEN for seven important years, covering the period when reference to standards in the legislation of the European Union was being introduced, and when the first important steps were being taken for the implementation of the New Approach in the technical legislation of the European Union.

In January 1991 he joined the Directorate General for Industry of the European Commission with the rank of Director. The Commission services under Mr. Vardakas' leadership are responsible for regulatory policy, standardization and conformity assessment policy, and telematics networks.

Biographical Information

Robert D. Wurzel
Vice President Regulatory and Quality Affairs
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Education:

M.B.A. Pepperdine University, 1976
Presidential/Key Executive Program

B.A. Bowling Green State University, 1957
Bowling Green, Ohio

Other:

Food and Drug Law – The John Marshall Law School, Chicago, 1972

Since 1970, I have held senior Regulatory and Quality Affairs positions in the medical device and pharmaceutical industry, beginning with Abbott Laboratories, North Chicago, Illinois. Other international healthcare companies with which I have been affiliated prior to Becton Dickinson are Warner Lambert, Organon Teknika and Baxter.

In 1989 I joined Becton Dickinson as Vice President Regulatory Affairs and Quality Assurance to develop a regulatory and quality infrastructure for a newly formed diagnostics business. In 1992 I was promoted to Director Corporate Quality Assurance at which time I initiated a transformation of the quality functional group worldwide from a focus on quality assurance to the broader focus of quality management. In addition, I have continued to upgrade the regulatory and quality leadership of the company worldwide to provide competence and experience consistent with the changing world government and business environment.

In October 1994, I was elected a Corporate Officer and Vice President by the Board of Directors. This is the position I hold today.

Prior to beginning my industry experience in 1970, I spent 18 years in public health and clinical laboratory work.

In addition to suporting FDLI activities, I remain active in various other indusry and standards organizations, including Health Industry Manufacturers Association (HIMA), American National Standards Institute (ANSI), the Association for the Advancement of Medical Instrumentation (AAMI), and NCCLS, The Clinical Laboratory Standards Organization. I am presently the U.S. industry representative on Working Group 4 of the Medical Device Global Harmonization Task Force. This Working Group is pursuing the harmonization of regulatory auditing worldwide. I am a member of the ANSI and AAMI Boards of Directors and I was a 1997 Malcolm Baldrige National (U.S.) Quality Award Examiner.

APPENDIX B

Final Participants' List

Toward A National Standards Strategy To Meet Global Needs

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APPENDIX C

ACRONYMS

ACOS	Advisory Committee on Safety
AFNOR	Association Francaise de Normalisation
ANEC	European Association for the Coordination of Consumer Representation in Standardization
ANS	American National Standard
ANSI	American National Standards Institute
APEC	Asia Pacific Economic Cooperation
ASAE	American Society of Agricultural Engineers
ASME	American Society of Mechanical Engineers
ASTM	formerly, the American Society for Testing and Materials
BSI	British Standards Institution
CASCO	ISO Committee on Conformity Assessment
CDRH	FDA Center for Devices and Radiological Health
CEN	European Committee for Standardization
CENELEC	European Committee for Electrotechnical Standardization
CEO	Chief Executive Officer
CI	Consumers International
COPOLCO	ISO Consumer Policy Committee
DIN	Deutsches Institut Fur Normung
DOC	U.S. Department of Commerce
ETSI	European Telecommunications Standards Institute
EU	European Union
FDA	Food and Drug Administration
FTAA	Free Trade Area of the Americas
GAMA	Gas Appliance Manufacturers Association
GSM	Global System for Mobile communication
ICSCA	Industry Cooperation on Standards and Conformity Assessment
IEC	International Electrotechnical Commission
IEEE	Institute of Electrical and Electronics Engineers
IETF	Internet Engineering Task Force
ISA	Instrument Society of America
ISO	International Organization for Standardization
ITI	Information Technology Industry Council
ITS	Intelligent Transportation Systems
ITU	International Telecommunications Union
MERCOSUR	Southern Cone Common Market
MOU	Memorandum of Understanding
MRA	Mutual Recognition Agreement

NAFTA	North American Free Trade Agreement
NAM	National Association of Manufacturers
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association
NIST	National Institute of Standards and Technology
OMB	Office of Management and Budget
OSD	Office of the Secretary of Defense
SAE	Society of Automotive Engineers
SDO	Standards Develoment Organization
SME	Subject Matter Expert
TABD	Transatlantic Business Dialogue
TAG	Technical Advisory Group
TBT	Technical Barriers to Trade
TC	Technical Committee
UL	Underwriters Laboratories
USTR	United States Trade Representative
WTO	World Trade Organization