**An Updated Look at the Federal Policies Governing
How Agencies Use Voluntary Consensus Standards
in Regulatory, Procurement, and Science Documents**

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Summary

Voluntary consensus standards are a salubrious antidote to the pervasive cynicism about public institutions;[1] the consensus standards process demonstrates that industry, civil society, academia, and government benefit the world by working together through a stable, sustained, and voluntary framework.[2] This document provides an overview of the policies which govern participation by Executive Branch agencies in the development and use of voluntary consensus standards and conformity assessment activities. Also examined is the nuanced federal approach to standards which are not developed in accordance with consensus procedures. Although these "market-driven consortia" standards are often developed by industry for industry, this type of standard can be of use to federal agencies in scientific, procurement, and regulatory applications.[3]

The policies discussed below reflect the White House's Office of Information and Regulatory Affairs' (OIRA) January 2016 update to OMB Circular A-119 which was revised to better serve America's economy in an increasingly interdependent world.[4]

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[1] See, for example, Klaus Armingeon and Besir Ceka, "The loss of trust in the European Union during the great recession since 2007: The role of heuristics from the national political system," European Union Politics, 2014, Vol. 15(1) 82–107 and Edelman, 2015 Edelman TRUST BAROMETER, "Trust Around the World," available at http://www.edelman.com/insights/intellectual-property/2015-edelman-trust-barometer/trust-around-world/.

[2] R.B. Marks & R.E. Hebner, "Government Activity to Increase Benefits from the Global Standards System," 2nd IEEE Conference on Standardization and Innovation in Information Technology," pp 183-190. Available at https://repositories.lib.utexas.edu/bitstream/handle/2152/30635/PR_316.pdf?sequence=1.

[3] For more information about market-driven consortia standards, see Bruce Levinson, "Market-Driven Consortia: Implications for the FCC's Cable Access Proceeding," Center for Regulatory Effectiveness, June 20, 2000, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2708895.

[4] The Federal Register notice announcing the Revision of OMB Circular No. A-119, "Federal Participation in the Development and Use of Voluntary Consensus Standards and in Conformity Assessment Activities" is available, https://www.federalregister.gov/articles/2016/01/27/2016-01606/revision-of-omb-circular-no-a-119-federal-participation-in-the-development-and-use-of-voluntary. OMB's discussion of its proposed revision of Circular A-119 and the comments received on a prior Request for Information is available, https://www.whitehouse.gov/sites/default/files/omb/inforeg/revisions-to-a-119-for-public-comments.pdf. The complete text of the revised Circular is available, https://www.whitehouse.gov/sites/default/files/omb/inforeg/revised_circular_a-119_as_of_1_22.pdf.

A. What Agencies are Responsible for Federal Standards Policy?

The White House's Office of Information and Regulatory Affairs (OIRA) is responsible for setting and implementing government-wide policy on the use of voluntary consensus standards.[5]

The White House's Office of the United States Trade Representative is responsible for coordinating standards activities with respect to trade policy issues.[6]

The Department of Commerce's National Institute of Standards and Technology is responsible for managing the technical side of federal participation in the development of voluntary consensus standards.[7] NIST is also responsible for coordinating federal, state and local standards activities including the processes for demonstrating conformity with standards so as to prevent needless duplication and complexity.[8] The Interagency Committee on Standards Policy, Chaired by NIST and with representation from virtually every federal agency, is the government's primary mechanism for coordinating standards activities.[9]

NIST manages its close working relationship with the American National Standards Institute via a Memorandum of Understanding.[10] Under the MoU, ANSI represents the US in international standards setting bodies such as ISO. ANSI's standards-related duties include accrediting National Standards Developers and approving American National Standards which are ANSI-approved consensus standards that have been developed by an accredited standards organization.

B. What is a Standard?

The simplest definition of a standard is "a document that defines the characteristics of a product, process or service, such as dimensions, safety aspects, and performance requirements."[11] OIRA's detailed three-part definition of "standard," included in Circular A-119, *Federal Participation in the Development and Use of Voluntary Consensus Standards and in Conformity Assessment Activities*,[12] expands on but is consistent with the IEEE's definition.

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[5] For more information see https://www.whitehouse.gov/omb/oira.

[6] OMB Circular A-119 (Revised 2016), p. 27.

[7] For more information, see, https://www2.nist.gov/.

[8] OMB Circular A-119 (Revised 2016), p. 33.

[9] See, https://standards.gov/icsp/query/agencies.cfm.

[10] Memorandum of Understanding Between the American National Standards Institute and the National Institute of Standards and Technology. Available at http://gsi.nist.gov/global/docs/ANSINISTMOU2000.pdf.

[11] IEEE, Standards Glossary, https://www.ieee.org/education_careers/education/standards/standards_glossary.html.

[12] OMB, Circular A-119 (Revised 2016), p. 15.

C. What is a Voluntary Consensus Standard?

Voluntary consensus standards are standards which have been developed—and which will be maintained—though a privately organized and privately managed consensus process. Each voluntary consensus body maintains the intellectual property rights associated with its standards including in instances in which voluntary consensus standards are incorporated into government documents.[13]

OIRA defines a consensus standards process as one which possesses the following attributes,

1. Openness.
2. Balance of interests with meaningful involvement from a broad range of parties.
3. Due process including documented and publicly available policies.
4. Appeals process for the impartial handling of procedural appeals.
5. Consensus which is defined as "general agreement, but not necessarily unanimity" that is achieved through use of a fair, impartial, open, and transparent process.[14]

Voluntary consensus standards that include patented technology are also required to "set out clear rules governing the disclosure and licensing of the relevant intellectual property, and take into account the interests of all stakeholders, including the IPR holders and those seeking to implement the standard."[15]

D. What is Federal Policy on the Use of Voluntary Consensus Standards?

The National Technology Transfer and Advancement Act[16] requires that agencies use voluntary consensus standards in lieu of government-unique standards unless such use would be "inconsistent with applicable law or otherwise impractical."[17]

E. How is Compliance with a Standard Certified?

Conformity assessment is the process by which "a product, procedure, service or system is evaluated or measured against a standard" to certify that it meets the requirements.[18]

OIRA strongly favors government agencies using the private sector to perform conformity assessment work, explaining that when "properly conducted, conformity assessments conducted by private sector conformity assessment bodies can increase productivity and efficiency in government

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[13] Id., p. 9.

[14] Id., p. 16.

[15] Id.

[16] See, http://www.nist.gov/standardsgov/nttaa-act.cfm.

[17] Public Law 104-113 National Technology Transfer and Advancement Act of 1995, Sec. 12. Available at http://www.nist.gov/standardsgov/nttaa-act.cfm.

[18] IEEE, Standards Glossary.

and industry. . . ."[19] OIRA further explains that conformity assessment programs should be designed to further "outcomes that are closely aligned with market dynamics and otherwise maximize net benefits to society."[20]

F. Does Use of Voluntary Consensus Standards Have International Trade Implications?

Yes. National and international law obligates the federal government to (1) refrain from using standards as a technical barrier to trade[21] and (2) "to use relevant international standards" when practical.[22] OIRA further explains that the federal government "does not make a distinction between standards bodies based on where they are domiciled, but rather with respect to the attributes that characterize their processes for standards development."[23]

G. What are Market-Driven Consortia Standards and Why Do They Matter?

Market-driven consortia standards are standards that have been developed through a streamlined, non-consensus process that usually includes representation from only a limited range of interests. These standards can be developed more quickly than consensus standards but do not have the same legal standing. Nonetheless, federal policy does recognize market-driven consortia standards and, in certain circumstances, favors their use. Moreover, federal policy recognizes that some standards development processes don't neatly fit within a consensus/non-consensus dichotomy.

The consortia which produce standards are usually alliances "of firms and organisations, financed by membership fees, formed for the purpose of co-ordinating technology development and/or implementation activities. . . . Its outcomes are publicly available, multi-party industry specifications or standards. Usually its members are large companies, which indicates that the resulting standards are likely to be very relevance [sic] for the market."[24]

Irrespective of market relevance, consortia standards can be of interest to government and academia as well as industry. The Internet Engineering Task Force is the most successful example of a consortia standards organization. Although the IETF does not operate by OIRA-defined consensus procedures, it does adhere to its own, proven "rough consensus" process.[25] The IETF maintains a

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[19] OMB, Circular A-119 (Revised 2016), p. 30.

[20] Id.

[21] OMB, Circular A-119 (Revised 2016), p. 22.

[22] Id.

[23] Id., p. 9.

[24] T.M. Egyedi, "Beyond Consortia, Beyond Standardisation? New Case Material and Policy Threads: Final Report for the European Commission," October 2001, pp. 11-12. Available at http://ec.europa.eu/DocsRoom/documents/1812/attachments/1/translations/en/renditions/native.

[25] Paul Hoffman, Editor, "The Tao of IETF: A Novice's Guide to the Internet Engineering Task Force." Available at https://www.ietf.org/tao.html.

rigorous commitment to transparency in its own proceedings and the organization demands transparency in the proceedings of government agencies.[26]

Despite their benefits for industry, market-driven consortia standards, often suffer from serious shortcomings when it comes to meeting the needs of government and academia. Hankin, Blower (2010) explain that while

> *traditional Standards Development Organizations (SDOs) such as ANSI, DIN, and ISO have been overtaken by market-driven consortia. . . . The majority of IT standards published in recent years achieve prominence too briefly to realize the vision that they advance and are replaced in the marketplace by the next "cool idea".[27]*

The next cool idea, however, often doesn't pan out. Or it's replaced by an even cooler idea, or by an idea that can obtain sufficient funding which is the very definition of "cool idea." It is costly and may be foolish for public or private sector organizations to make commitments to developing standards with an uncertain future.

> *Making commitments to unproven standards in the face of rapidly changing technologies is a form of gambling. . . . The history of IT standards has shown us time and again that there is seldom a big win from taking this approach. Rather there is a pronounced risk of confusion and setbacks through making premature commitments.[28]*

Irrespective of the process by which standards are developed, if the standards are to meet their intended need, they need to be tested under realistic scenario and changes to standards need to be

> *thoroughly vetted through testing in situations of realistic complexity before they are adopted. This is arguably a defining characteristic of most highly successful IT standards processes. It is a key characteristic that has guided the much esteemed Internet Engineering Task Force (IETF) that has enabled it to produce so many of the interoperability standards that we depend upon today for web browsing, file transfer, and email, amongst others. The contrasting process of developing standards through committee processes often results in standards that have had inadequate testing in situations of*

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[26] See, for example, p. 3 of the comments by the IETF's Internet Architecture Board to NIST on the Re-opened Public Draft of "SP 800-90A, Recommendation for Random Number Generation Using Deterministic Random Bit Generators." Available at https://www.iab.org/wp-content/IAB-uploads/2013/10/IAB-NIST-FINAL.pdf.

[27] Hankin, S., Blower, J.D., Carval, T., et al, (2010) NetCDF-CF-OPeNDAP: Standards for ocean data interoperability and object lessons for community data standards processes. In Proceedings of the OceanObs'09:Sustained Ocean Observations and Information for Society (Vol. 2) (Hall, J., Harrison, D.E. and Stammer, D.,eds), Venice, Italy, 21–25 September, 2009 ESA Publication WPP-306, (doi:10.5270/ OceanObs09.cwp.41) p. 2.

[28] Id., p. 8. [Note omitted].

> *realistic complexity. This weakness has been the downfall of many standards.*[29]

From a user's perspective, what matters about a standard is how well it works in a given application, not the process by which it was developed. Hankin, Blower (2010) discuss the University Corporation for Atmospheric Research's Network Common Data Form (NetCDF),[30] the conventions for using Climate and Forecast (CF) metadata,[31] and OPeNDAP's Open-source Project for a Network Data Access Protocol as examples of standards that have been developed outside of a formal consensus process meet the needs of scientists and government agencies.

> *The netCDF-CF-DAP standards processes, with greater speed and far less formality, also continue to achieve their intended purposes. NetCDF, CF and OPeNDAP are all products of the scientific research communities in oceanography, meteorology and climate sciences. The growth in the usage of these standards is attributable to their ability to meet the needs of the research scientists and scientific software developers in these fields. These standards exemplify the "bottom up" process by which de facto standards grow -- competing successfully in the marketplace by meeting the needs of their users. The recognition of these standards continues to grow.*

Hankin, Blower (2010) note that the "trio of netCDF-CF-DAP was elevated to the status of 'Recommended Standard' for gridded data interoperability by the IOOS Data Management and Communications (DMAC) Steering Team" and that "NASA has endorsed both netCDF and OPeNDAP as standards. . . ." IOOS, the Integrated Ocean Observing System, is a national-regional partnership lead by NOAA.[32]

H. What is OIRA's Policy on Market-Driven Consortia Standards?

OIRA's government-wide policy on standards closely matches the real world needs of diverse standards-using organizations. Circular A-119 establishes that agencies may use market-driven consortia standards. Although the Circular establishes a clear federal preference for voluntary consensus standards over government-unique standards, the Circular also states that agencies may use market-driven consortia standards

> *in rulemaking, procurement, or other program activities in cases where voluntary consensus standards do not exist or use of existing voluntary consensus standards would be inconsistent with law or otherwise impractical, <u>including where use of a voluntary consensus standard would not be as effective at meeting the agency's regulatory, procurement or program needs.</u>*[33]

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[29] Id. [Note omitted].

[30] See, http://www.unidata.ucar.edu/software/netcdf/.

[31] See, http://cfconventions.org/.

[32] See, https://ioos.noaa.gov/about/about-us/.

[33] OMB, Circular A-119 (Revised 2016), p. 19. [Emphasis added].

Furthermore, the OIRA Circular

> *also recommends that the agency consider allowing the use of other standards as alternative means for complying with agency regulatory, procurement, or program requirements that incorporate voluntary consensus standards, where such other standards are also found to be suitable under the agency's analysis.*[34]

OIRA makes clear that Federal officials are able to participate in the activities of market-driven consortia. In its discussion of proposed revisions to the Circular, OIRA stated that it "recognizes that Federal agencies also participate in the development of other voluntary standards, including through their activities in bodies that develop voluntary non-consensus standards, as well as in regulatory collaboration initiatives."[35]

The Circular explains that federal policy maintains

1) a "strong preference" for using voluntary consensus standards over government-unique standards,[36] and

2) "flexibility for agencies to use standards developed in the private sector that best meet agencies' regulatory, procurement, or program needs, whether or not those standards are developed by voluntary consensus standards bodies."[37]

Of note, the Circular recognizes that a simple consensus/non-consensus dichotomy is not adequate for characterizing private, voluntary standards development processes. Thus, the Circular's guidance to agencies on factors to consider when deciding on a standard includes the "extent to which, when preparing the standard, the standards body reflected the attributes of a voluntary consensus standards body. . . ."

I.   How Does Federal Policy on Voluntary Consensus Standards Integrate with Other Regulatory Requirements on Agencies?

Potentially, perfectly. Coordination of standards policies with the other policies governing federal regulatory, procurement and science activities across the agencies is the responsibility of OIRA. Consistent with the requirements of Executive Order 13609 "Promoting International Regulatory Cooperation," Circular A-119 has been revised to "encourage, greater coordination between the Interagency Committee on Standards Policy, the Regulatory Working Group, the Trade Policy Staff Committee and its subcommittees, and any other relevant interagency groups or committees."

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[34] Id.

[35] OMB, Discussion of A-119 Proposal and Response to Public Comments, p. 45. Available at https://www.whitehouse.gov/sites/default/files/omb/inforeg/revisions-to-a-119-for-public-comments.pdf

[36] OMB, Circular A-119 (Revised 2016), p 4.

[37] Id. p. 5.

Unfortunately, OIRA which is responsible for administering the NTTAA and Circular A-119 along with the Paperwork Reduction Act,[38] the Data Quality Act,[39] the President's Executive Order on regulatory review, and the various other laws that attempt to regulate the regulators[40] is severely understaffed which limits the organization's ability to fulfil its regulatory coordination and control duties.

Nota Bene
The potential of voluntary standards to shape the administrative state has yet to be realized.

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[38] See, https://www.acus.gov/sites/default/files/documents/ICR-Comment-Period-Analysis.Jim-Tozzi-r..pdf.

[39] See, https://en.wikipedia.org/wiki/Data_Quality_Act.

[40] See, http://www.thecre.com/pdf/20110203_OMB_Reg_Review.pdf.