



11 March 2020

Russell T. Vought  
Acting Director  
The Office of Management and Budget  
The White House  
Washington, DC 20503

Re: IEEE Comments on the Draft Memorandum, *Guidance for Regulation of Artificial Intelligence Applications*

Dear Mr. Vought,

IEEE is pleased to submit the following information in response to the OMB's request for comments - published in 85 FR 1825 (13 January 2020). Below is input that we hope will help provide strong guidance to Federal agencies to inform the development of regulatory and non-regulatory approaches to reducing barriers to the development and adoption of artificial intelligence (AI) technologies. We commend the White House for its effort to ensure that the federal government enables a robust economy while also protecting the public with good regulatory practices.

IEEE has two overarching comments to the draft memorandum. First, we believe that AI applications and methods represent an increasingly important source of growth for the US economy. While economic indicators are a useful proxy to measure this growth, the Administration will benefit from incorporating non-economic indicators into this analysis, such as those dedicated to measuring the public's well-being or considering the minimization of negative social impact. Depending on the application, we should assess the societal benefit of AI technologies. For example, if the application is autonomous vehicles, then the assessment is the change in mortality rates or the reduction in the number of accidents. Second, public trust and its constitutive elements (e.g. privacy, accountability, transparency, scientific integrity, fairness, non-discrimination, safety, and security) should play a central role in all areas of action by federal government agencies. Each should be addressed in a manner that maximizes the benefits of this technology while protecting the rights of individuals. Doing so will improve the public's trust in AI and have a positive effect on the country's economic and non-economic growth.

Along with these general comments, we provide the following detailed comments on particular elements of the draft memorandum:

A] The draft memorandum would benefit from the consolidation of some principles to provide a more comprehensive treatment regarding the government's role in each area. For example, consider merging the ***Public Participation*** and ***Disclosure and Transparency*** sections. Each principle discusses very similar aspects of the communication paradigm between the public and government. Specifically, both mention the government's role in sharing information and the ability of non-government stakeholders, individuals, non-profits, and the private sector, to participate in the public policy process.

Additionally, while the ***Benefits and Costs*** section devotes space to discussing accountability, perhaps merging it with ***Risk Assessment and Management*** and ***Safety and Security*** would clarify and provide a

more comprehensive treatment of the government’s role in protecting individuals from pecuniary and non-pecuniary harms.

**B] P.1 Scope:** Understanding that methods refer to approaches to accomplish a goal, while applications represent the ultimate purpose of a technology, we suggest adding language that distinguishes between “methods” and “applications” of AI throughout the memorandum. For example, in the second line of this section, edit as, “...regulatory and non-regulatory oversight of AI applications and methods developed and deployed outside of the Federal government.”

**C] P.3 Principles for the Stewardship of AI Applications:**

The list of Principles within the draft memorandum covers many issues important to the American public. The document could benefit from emphasizing some ideas that are scattered throughout the document. For instance, privacy is mentioned 14 times, but there is no section that specifically discusses how it impacts people and firms.

The public participation principle is a great step forward to increasing transparency of government action in the AI arena. It is positive that no distinction is made between how individuals and incorporated entities will be treated.

The flexibility principle is extremely important, particularly in regard to ‘international uses of AI’ in the context of standards and international regulation. OMB is encouraged, to the extent practical, to collaborate with other international authorities to ensure that the regulatory regime does not present an adverse impact to American companies.

**D] P.3 *Public Trust in AI:*** While the draft memorandum acknowledges that AI technologies, “pose risks to privacy, individual rights, autonomy, and civil liberties that must be carefully assessed and appropriately addressed,” this memorandum should explicitly make the connection between the key “trust characteristics” – privacy, accountability, transparency and safety – in the criteria designed to ensure that the government’s regulatory and non-regulatory approaches will contribute to increasing the public trust in AI. Trust is a central tenet of this document and acceptance is a critical enabler of growth. Most of the articulated principles, with the addition of real accountability, are what build trust. It is advantageous to make these connections and dependencies explicit.

In this sentence starting at the end of line 4, add the following clause: “Its continued adoption and acceptance will depend significantly on public trust and validation through mechanisms for transparent risk assessment and evaluation criteria.”

In line 7, replace “...robust...” with “...transparent, traceable, unbiased, non-discriminatory, safe...”

*Commentary:* This clarifies the elements that constitute "robustness" and that must come together to create public trust. The elements are listed separately in Principles 2, 3, 5-9, but all are proper components of public trust. This edit makes the connection explicit.

**E] P.4 *Scientific Integrity and Information Quality:*** Add “Effective regulation should address transparency, explainability, predictability, bias and accountability for AI algorithms, as well as risk management, privacy, data protection measures, safety, and security considerations. Certification of systems involving AI is a key technical, societal and industrial issue.” at the end of the last paragraph of this section.

In line 2, replace “...leverage...” with “...incorporate...”

*Commentary:* The word "incorporate" is more descriptive than "leverage" and reinforces principle 1 which calls for reliable AI applications and methods.

In the last line (line 12), replace "...of sufficient quality..." with "...unbiased and of sufficient quality..."

*Commentary:* This reinforces Principle 7.

**F] P.6 Disclosure and Transparency:** After the last sentence in this section, add "Under no circumstances should agencies conduct closed meetings with selected subsets of stakeholders."

*Commentary:* This section explains that the transparency principle is amorphous and context specific. The introduction of this ambiguity undermines the mandate. Agencies should not be allowed loopholes to engage with special interests that may result in policies that harm the public good. This is antithetical to the concept of transparency advocated by this principle as well as Principles 1 and 7.

**After *Interagency Coordination*:** Add Principle **11. Accountability.** Individuals or entities that are harmed by the use of an AI application or method, be it economic, non-economic, or criminal, should be able to pursue justice through the judicial system. Agencies are asked to, within the scope of their power, provide the necessary regulatory or non-regulatory mechanisms for such action. Accountability may be defined as assuring that all agencies are able to trace harm suffered by consumers of AI products, when used as intended by the producer, to the producer, and that the producer is held accountable for the harm. Traceability extends to marketers, sellers, manufacturers, developers, designers and coders where applicable. Alternatively, users who cause harm by applying an AI product in a manner not intended by the producer, are accountable for the harm.

*Commentary:* Public trust is of utmost importance in fostering the growth of AI. Accountability is essential for building public trust. Public perception of AI applications and methods as safe is paramount; malefactors, or negligent producers and users must be held accountable. Executive Order 13859 does not describe or mention accountability as described above. This new principle is consistent with Principles 1 through 9, and provides the Principles with substance otherwise absent. Without trust and accountability, growth could be suppressed.

**G] P.7 Pilot Programs and Experiments:** After the first sentence of this section, add, "Waivers may not violate the key ethical principles of public trust, public participation, scientific integrity, fairness, disclosure and transparency, safety and security, and real accountability (recommended new Principle 11)"

*Commentary:* This section explains the need for waivers. While it is conceivable that some regulations may not bear directly on the ten (moving to eleven) Principles enunciated in this Memorandum and hence can be waived temporarily, it is not plausible that the ethical principles or principles of good governance summarized in the edit can ever be waived. Furthermore, without this constraint, the Principles advocated for in this document would appear to become voluntary and an invitation to abuse. It could potentially render the executive order impotent and, even worse, could erode the public trust.

**H] P.7 Voluntary Consensus Standards:** Rewrite this paragraph as "*Voluntary Consensus Standards.* The private sector and other stakeholders may develop voluntary consensus standards that concern AI *technology development and* applications, which provide non-regulatory approaches to manage risks associated with AI applications that are potentially more adaptable to the demands of a rapidly evolving

technology. Agencies should give a preference to *globally open*, voluntary consensus standards *developed by formal Standards Developing Organizations in a market-driven paradigm*, but may also avail themselves of independent standards-setting organizations, *such as consortia, as well as collaborative projects such as those in Open Source Software communities*, and consider the robustness of their *technical specifications and outputs* when evaluating the need for or developing related regulations. In addition, agencies should consider relying on private-sector conformity assessment programs and activities, before proposing either regulations or compliance programs.”

**I] P. 9 Agency Participation in the Development and Use of Voluntary Consensus Standards and Conformity Assessment Activities:** Add “Agencies may also avail themselves to standards bodies and independent organizations that have extensive experience in managing conformity assessment programs and who have conformity assessment or certification programs in AI, such as the IEEE Ethics Conformity Program for Autonomous and Intelligent Systems for the purpose of developing critical certification criteria for responsible innovation and delivery of autonomous and intelligent systems (A/IS).” to the end of the last paragraph in this section.

**J] P.10 Agency Plans to Achieve Consistency with this Memorandum:** To inform the public of each agency’s planned and implemented activities, the White House should consider expanding the website portal at <https://www.whitehouse.gov/ai/> to include this information. This site could become an information hub that would improve transparency in decision-making. This is aligned with Principle 8 of the document (*Disclosure and Transparency*).

**K] P. 12 Public Consultation:** In the first line of second paragraph, replace “agencies should also” with “agencies must.”

*Commentary:* Principles 2 and 3 should not be optional and should carry the full weight of Executive Order 13859. It is inconsistent and confusing to state a principle at the top of the order, then abrogate it in the background material.

**L] P. 12, Assessing Risk:** Before the last sentence in the paragraph, add the sentence, "Intellectual property rights and/or privacy protection are not reasons to side-step accountability for deploying or not deploying regulations."

*Commentary:* While IP and privacy rights must be protected, no entity should invoke them to escape accountability for harm that might result from an AI product. This is inconsistent with Principles 1, 9 and new Principle 11.

This input is a joint effort of IEEE-USA and the IEEE Standards Association (IEEE-SA).

IEEE-USA represents approximately 200,000 engineers, scientists, and allied professionals living and working in the US. Our members work in the new AI-related industries, developing and working with the emerging technologies used in artificial intelligence systems. This expertise provides us with a unique perspective on the benefits of these technologies.

The IEEE Standards Association (IEEE-SA), a globally recognized standards-setting body within IEEE, develops consensus standards through an open process that engages industry, and brings together a broad stakeholder community. IEEE-SA sets specifications and best practices based on current scientific and technological knowledge. IEEE-SA has a portfolio of over 1,250 active standards and over 650 standards under development.

We appreciate the opportunity to provide input. Should you have any questions or wish to discuss these comments further, please do not hesitate to contact Erica Wissolik at (202) 530-8347 or [e.wissolik@ieee.org](mailto:e.wissolik@ieee.org).

Sincerely,

A handwritten signature in black ink that reads "James M. Conrad". The signature is written in a cursive style with a large, stylized "J" and "C".

Jim Conrad  
IEEE-USA President