

August 11, 2009

Dr. John Holdren
Office of Science and Technology Policy
Executive Office of the President
725 17th Street Room 5228
Washington, DC 20502

Dear Dr. Holdren:

I am extremely grateful for the opportunity to present comments in the "Public Comments" component of the inaugural meeting of the PCAST on 6 August 2009; reflecting the views of the Modeling and Simulation (M&S) Community of Practice (CoP). Your staff (particularly Ms. Stein) were most helpful in coaching me to the protocol and deportment necessary for my participation, in a way that reflected, I believe, the respect and courtesy PCAST extends to the public sector.

During the PCAST's deliberations, I was particularly galvanized by the substance of your introduction of the first panel on Energy and Environment, and by the comments of Dr. Shere Abbott thereafter. Your own declaration of: a) the intimate interrelations among apparently distinctive component subject areas (e.g. energy, security, environment, infrastructure, and economy); b) your characterization of the circumstances whereby we operate in an "initial condition" state from which evolutionary dynamics must be managed toward one or another of a set of acceptable, successive future states; and c) that we are faced with the fact of a challenge in integrative analysis, were particularly stimulating, and seemed to me to reinforce the salience of modeling and simulation as a necessary supportive cross-cutting meta-technology for the PCAST and OSTP agenda and concept-of-operations.

On this account, I presume to offer for your information, a logical extension of my public comments in the form of a summary rationale for the absolute imperative to include modeling and simulation within the purview of PCAST and OSTP at even the most modest level. Those comments indicate:

- The acknowledged efficacy of M&S in individual topical domains (illustrated by Dr. Chu) are plentifully evident.
- The absolute inhibition to mission and aspirations of the PCAST and OSTP posed by lack of efficient mechanisms (other than simulation) for integrating the analysis you envision necessary is readily apparent.

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- The unfortunate fact of serious lack of interoperability and connectivity among PCAST agenda topical domains (despite the well-intended communications among your organization's constituent-advocates together with their explicitly expression of need to address topical interface and integration, and the existence of a few plenary topic domains), may be materially ameliorated by systematic by judicious use of M&S
- The fact that only PCAST and OSTP leadership can possibly instigate tactical use of M&S is evident on the evidence of the Boltzmann's second interpretation of the second law of thermodynamics – 'things fall apart not together'.
- The fact that industrial, academic, and congressional support exist, and are available selectively and economically for such an elective commitment, is encouraging.
- The fact that some inhibitions of implementation of an M&S-based tactical approach exist (e.g. a) karmic residue of Meadows world models; b) huge political pressure for immediate concrete systematic results on topics that are easily recognizable to the public and for which existing stakeholder communities already exist; and c) the fact of M&S as 'only' a supporting meta-technique); may reasonably be considered a 'modest-risk huge-payoff' component of the PCAST and OSTP agenda) are not *prime facie* inhibitive.

I hope that I have not presumed too far upon your tolerance for unsolicited, 'outsider' input. And, I assure you that I will do my best to encourage the modeling and simulation industry and their congressional allies to be admirers, if not participants, in your most worthy enterprise.

Regards,



William F. Waite

Executive Chairman, *SimSummit*

Member BOD, Modeling and Simulation Society International

Member, Congressional M&S Caucus Support Committee

Chairman BOD, Alabama Modeling and Simulation Council

Chairman BOD, and CTO The AEgis Technologies Group, Inc.

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