

HSS Visiting Speaker Program – Governance and Regulation: U.S. to Lead or Lag in the 21st Century?

Co-Sponsored by the National Academy of Public Administration. July 24, 2009



Basic High Reliability Organization (HRO) characteristics are: successful at avoiding catastrophes in high risk, complex operating environments, and consistently delivering regular performance with complex missions.

HROs can be envisioned in such areas as aviation, transportation, financial, chemical, and nuclear organizations.

How should we regulate HROs today and in the future? Should it be focused on HRO qualities such as leadership, collaborative capacities, innovation capacities, the culture, information flows?

What should be the balance? Innovation vs. stability and control (considering that HROs want to control things to prevent catastrophes)

What is the balance on a global perspective vs. a national/localized perspective? What is the regulatory form to consider?

Dr. Anne M. Khademian, Professor, Center for Public Administration and Policy, Alexandria, Virginia Tech

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The fundamental of a high reliability organization is the idea that reality is not optional – we must actually know and understand the consequences of our actions and decisions.

What changes in the regulatory system are needed to help ensure that our system is more reality based and less faith based? 1) We need to do more to base decisions on evidence of outcomes; 2) ensure regulatory neutrality (both technological and competitive neutrality); 3) integrate regulation with the Government Performance and Results Act (GPRA); and 4) provide assistance and third-party assurance that all regulatory agencies with high reliability issues are doing all these things.

*Dr. Jerry Ellig, Senior Research Fellow,
Mercatus Center at George Mason
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In retrospect, the review of regulations has not been great in the U.S. The OMB annually produces a report on the cost-benefit of federal regulations but a careful reading shows that this not a retrospective analysis. OMB uses the cost-benefit figures that agencies calculated and predicted when they proposed the regulations. This is not a genuine retrospective examination.

There is a vehicle called the GPRA which requires agencies to engage in strategic planning, explain outcomes desired, how to accomplish them, and report progress annually. This process could be adopted to do retrospective reviews of regulations.

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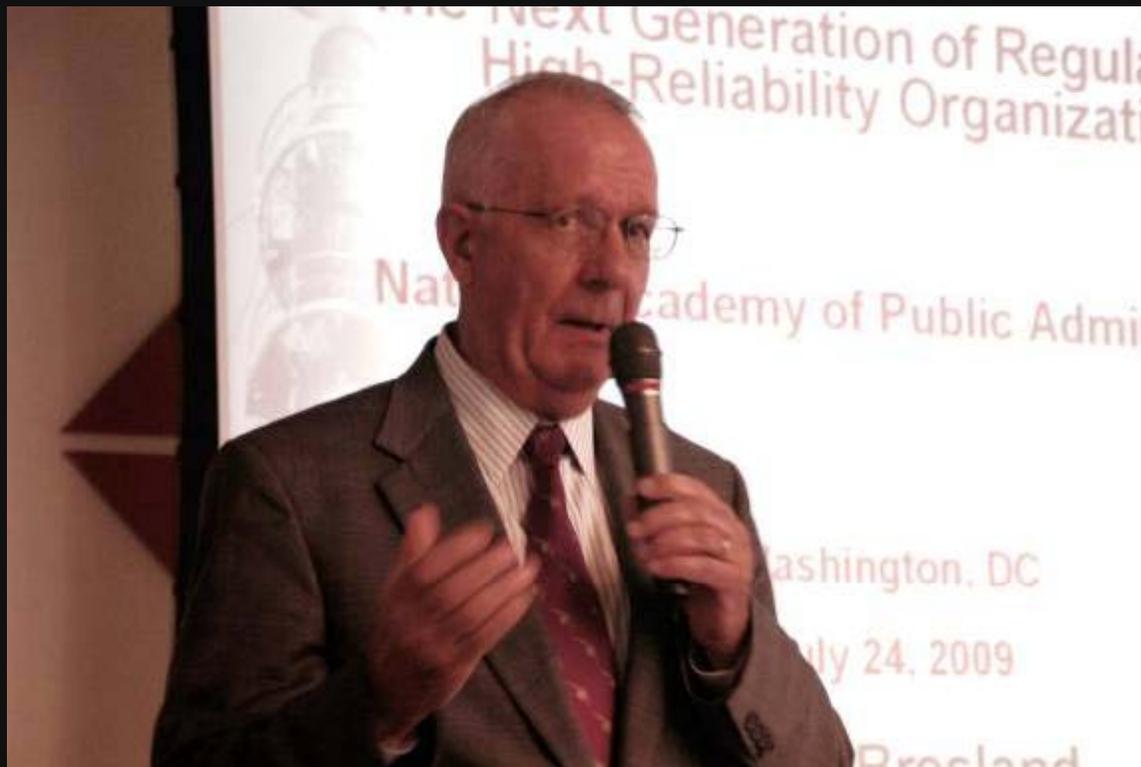
A challenge to making regulations for HROs is that the missions are quite different and it is difficult to make regulations that can be applied across all the types of organizations

But regulations are effective, consider that we have – as a result of regulation: Cleaner air and water, Better and steadily improving safety, More accountability by organizations on performance, and Industry responsibility.

Hon. John Bresland, Chief Executive Officer, U.S. Chemical Safety Board

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The safety of people working in facilities probably is getting better steadily and surely based on regulation; but keep in mind there are still between 5,000 and 6,000 people getting killed every year in industrial accidents at their workplace, so we still have a way to go.

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With respect to safety regulations, the conventional wisdom is that the more we regulate, the safer we get. This is what regulators like to think. But we at the FAA are finding out that there is a plateau beyond which more regulations do not improve safety and that further improvements require a more collaborative approach.

Christopher A. Hart, Deputy Director, Air Traffic Safety Oversight Service, Federal Aviation Administration

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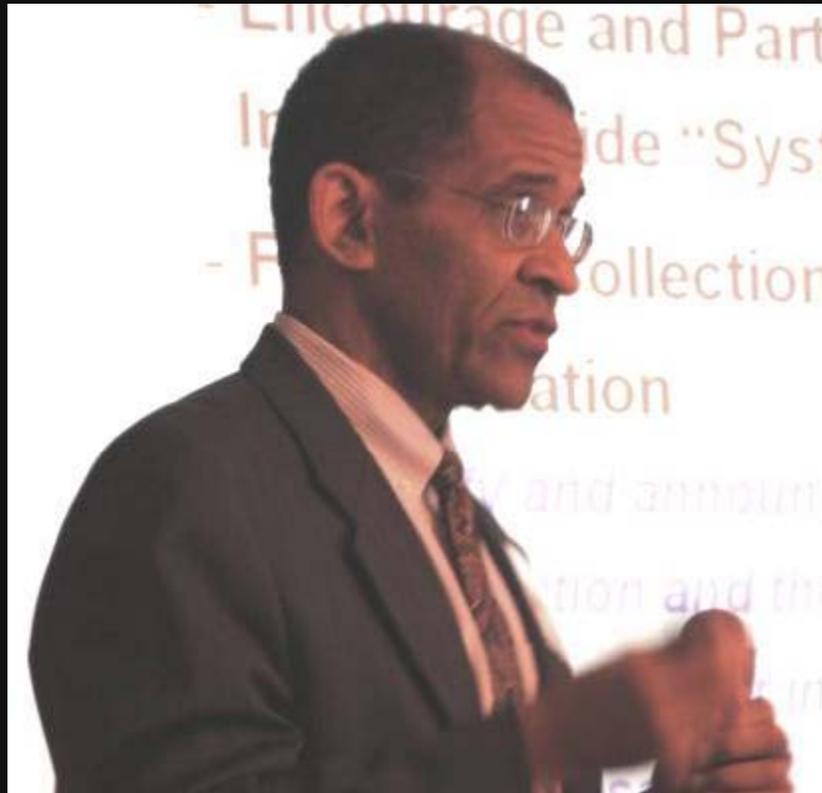
In any working environment where there are interdependencies between large, complex, and interactive systems and organizations, safety issues are more likely to involve the interactions between parts of the system.

This means we must get smarter about not only the individual parts and pieces but how they interact with each other. We must look at the system, the operator, and the interaction between them.

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We can enhance the understanding of operator-system interaction by collecting, analyzing, and sharing information. This collaboration will enable us to design a system that is less error-prone and more error-tolerant.

We are finding that the collaboration or system think process with input from front-line workers not only improved safety but also improved productivity and profits.

The regulators can help and be more effective to industries by emphasizing the importance of system issues in addition to operator issues, by encouraging industry with “system think”, and by facilitating the collection and analysis of information. Information is the fuel for this process.

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Emerging technologies in fields such as modern biology, exotic materials, and nanotechnology are changing dramatically every year. These significant changes are typically beyond what we can regulate at a given moment.

Dr. Mihail C. Roco, Senior Advisor for Nanotechnology. National Science Foundation

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There are issues unique to emerging technologies such as nanotechnology that make crafting regulations a challenge. A single country or centralized approach will not work – the vast application and multiple areas in which nanotechnology is applied makes it virtually impossible to have one authority but have instead a distributed system across organizations.

Some organizations are welcoming regulation in this area – such as the environmental health and safety sector – because they believe the increased regulation reduces future uncertainty. Others, such as in food and cosmetics usage are not welcoming increased regulation.

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How do we regulate in this area? We must be visionary thinkers with a long-term horizon and a global view perspective. We need to develop transformative investment and science and technology policies that support innovation. We need to ensure good practices when it comes to protecting the environment and worker health and safety by understanding the risks of the emerging technologies. And we need to build capacity to collaborate and encourage R&D consortia.

Dr. Mihail C. Roco, Senior Advisor for Nanotechnology. National Science Foundation