



March 16, 2009

Office of Management and Budget  
(Submitted Electronically to [oir\\_submission@omb.eop.gov](mailto:oir_submission@omb.eop.gov))

Dear Sirs:

I am grateful for the opportunity to offer a rather different perspective on how Executive Order 12866 might be rewritten, and how OIRA's regulatory review and coordinative processes might be improved, than that of most of the comments responding to the February 26 *Federal Register* notice and of most of the reform ideas proffered over the past 25 years. As you know, many current and past critics of OIRA have objected to its perennial embrace of cost-benefit analysis (CBA) as a tool to review agency regulations, while yet recommending that OIRA continue to review agency risk assessments (albeit in a less intrusive, rule-by-rule fashion). The other major current of advice contends that OIRA has been insufficiently intrusive, and should redouble and expand its efforts to counteract a "vicious circle" of exaggeration of risk and public demand for burdensome regulations.

I firmly believe, based in large part on several decades' experience as a risk assessment expert and as the agency official who led OSHA's interactions with OIRA during the second half of the Clinton Administration, that both of these broad prescriptions are deeply misguided. I believe OIRA *should* continue to employ CBA to review individual rules and should take a more active role in coordinating regulatory and non-regulatory initiatives across government. But at the same time, we need to admit that OIRA has never provided the "dispassionate second opinion on agency actions" that the February 26 request posits as given; in fact, it has facilitated its own "vicious circle" of *underestimation* of risk, exaggeration of cost, and insufficiently

ambitious and creative solutions to environmental, health, and safety (EHS) problems across government.

I emphasize that these views are my own, and not necessarily those of UMDNJ or the University of Pennsylvania. I also emphasize that I have worked with many of the current and former staff at OIRA over a long period of time and respect their considerable skills as regulatory analysts. To conclude, as I have, that the rule-by-rule reviews I experienced at OIRA as an agency official were unsatisfying is not to say that any of the individual objections OIRA raised were not meritorious or well-intended.

These comments will generally support the conclusions that:

- OIRA should strive to employ a more sophisticated, probing, and humane brand of CBA to review rules, not to abandon CBA in favor of some less replicable and transparent method;
- The Executive Branch has never had adequate leadership and staff capable of reviewing agency risk science; it should establish such a capacity either within OIRA or within OSTP, CEQ, or some new entity<sup>1</sup>; failing that, it should instruct OIRA to review agency CBAs *without* second-guessing scientific conclusions outside its expertise;
- OIRA has consistently failed to review agency rules from both complementary vantage points of “how can we chip away at what we’ve been given, in order to make it less protective and (perhaps) less costly?” and “how can we improve what we’ve been given in order to make it more protective and (perhaps) more costly?” My own interactions with OIRA, exclusively during a period when the White House was ostensibly favorable to substantive regulation, suggest that in more than 100 “suggestions” about individual regulatory provisions, OIRA required OSHA to scale back the stringency or coverage of our proposed or final rules, but rarely if ever prodded us to consider making them more protective.

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<sup>1</sup> I am intrigued by Professor Rose-Ackerman’s suggestion (p. 3 of her comments) that the NAS or the GAO could be tasked with reviewing (among other things) agency risk science, but I think that as long as there is going to be White House review of regulatory provisions and regulatory economics, there should be some Executive Branch capacity in regulatory science as well, and that duplicating this externally could add further delay without significant benefit.

- Even more significantly, OIRA has failed to correct egregious examples of agency inaction; the “prompt letters” John Graham introduced occasionally had the desired effect, but more often engendered only lip service on the part of the agencies prompted. The Executive Order should set forth a public process for suggesting targets for OIRA prompt letters, and should require agencies to make steady progress towards final action on matters prompted by OIRA (unless they can explain their reasoned objections publicly); it should also encourage agencies to backstop these concerns by issuing bulletins or guidance while regulatory action is pending.
- OIRA has consistently acted as if risk assessment (the raw material for benefits assessment) is the phase of CBA that needs the most oversight and rigor – to the contrary, regulatory cost accounting is clearly the weak link in CBA, and needs much more transparency, sophistication, and even-handedness. This is the half of CBA that OIRA staff *should* be adept at.
- OIRA has almost always construed “interagency coordination” as a means to convince one agency to forego its objections to the action of another agency that might hinder its mission; instead, OIRA should proactively seek to spur multiple agencies to collaborate and to solve problems that cross institutional or physical boundaries.
- OIRA should pursue non-traditional approaches to EHS hazards, but should realize that guidance documents, market mechanisms, and the like are only part of the portfolio of tools – there are various unexplored ways to achieve more protection at less cost.
- OIRA should rethink its biased approach to risk-risk tradeoffs, which exaggerates potential (or wholly made-up) downsides of regulation and rarely considers ancillary benefits or properly construes the tradeoffs as an impetus to solve multiple risks.
- OIRA could serve as the focal point for an entirely new approach to risk management – a “solution-focused” paradigm that uses risk assessment and economic analysis to point the way to optimal technologies and other control measures, rather than to dissect problems and set numerical standards that may be merely aspirational (see Appendix A to these comments for a brief description of this paradigm).

The remainder of these comments will follow in two sections: (1) suggestions organized via the eight topic areas listed in the February 26 *Federal Register* notice; and (2) additional specific suggestions for text changes in E.O. 12866 itself.

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## *Comments in Each of the Eight Topic Areas*

### **1. OIRA-Agency Relationship:**

I came to government in 1995 as a critic of the OIRA-Agency relationship, based primarily on my concerns with unqualified OIRA analysts pursuing unscientific crusades against what they (mis)perceived as problems with quantitative risk assessment. I left DC in 2000 (to become an OSHA regional administrator) pleasantly surprised at the quality of the OIRA regulatory reviews; a very large number of the changes OIRA asked for made our proposed and final rules more cost-effective and clear. However, the relentless nature of the reviews – questioning every provision or explanation thereof that might result in EHS protections that could be scaled back without clearly jeopardizing the entire purpose of the rulemaking – was disappointing and ultimately could lead to unfortunate strategic behavior on the Agency's part.

There are unjaundiced ways to look at a regulation, that flow from a willingness to believe that some provisions could be expanded, implemented more quickly, or otherwise made more stringent (or more reliably-enforced) *without* unduly raising the burden on the regulated. OIRA should try much harder to add value in this way when it conducts reviews, rather than gaining satisfaction merely by chipping away at what the proposing Agency wishes to promulgate.

In addition, I remain concerned about the propriety of OIRA, with the current skills and backgrounds of its staff and leadership, second-guessing agency risk science. This is a perennial problem, as this excerpt from the scientific literature in 1993 suggests:

OMB's comments are full of errors and misconceptions that demonstrate a fundamental lack of understanding by OMB of the scientific methods relied upon by OSHA. OMB's comments are also remarkably lacking in scientific objectivity... In some instances, OMB's errors are so blatant that they can only be understood as attempts by OMB to discredit OSHA's analysis by any means possible...Appropriate peer review of the risk assessments of government agencies is highly desirable, as is also economic evaluation of regulations affected by risk assessments. However, to avoid subverting the decision-making process, it is important that risk assessments, as well as reviews of those risk

assessments, be conducted by qualified individuals and in an unbiased manner. Kenny S. Crump and Robin Gentry, *Risk Analysis*, **13**: 487-489.

The remedy of establishing a risk-science review function conducted largely by scientists is also not a new idea: “Over time, OSTP could act as a force for consistency and reasonableness of practices, *while counteracting the tendency of OMB’s economists to jump into scientific matters that are outside their expertise.*” John D. Graham, “Edging Toward Sanity on Regulatory Risk Reform,” *Issues in Science and Technology*, Summer 1995, pp. 61-65 (emphasis added). I am not unaware that since making this observation, Dr. Graham himself hired several scientists at OIRA, but I think that adding three or four analysts (unless I am out-of-date here) can only hope to paper over a more fundamental structural problem here.

## ***2. Disclosure and Transparency:***

My only comment here, other than to applaud the various improvements in OIRA disclosure made under John Graham’s tenure at OIRA, is to encourage OIRA to involve the agency staff more in discussions with regulated parties. Perhaps this has since changed, but in my experience circa 1995-2000, we were required to attend such meetings but were cautioned not to engage directly with the aggrieved stakeholders.

## ***3. Encouraging Public Participation:***

I think the public has ample access to agency regulatory processes, and that the agencies have made strides to improve that access in recent years (bringing rulemaking hearings to the field, for example). The more important issue is “access to what?” One of my enthusiasms for a “solution-focused” approach to risk assessment and management stems from the fact that existing processes have tended to channel community participation in regulation towards controversial issues regarding the size

and nature of the problem, rather than towards the real benefits and costs of technological and other solutions to the problem.

#### 4. *The Role of CBA:*

##### A. Problems on the “Cost Side”:

If this statement sounds counter-intuitive, I’ve made my point already: OIRA should be more concerned about errors and lack of rigor with respect to the costs of each regulation than it is about the benefits (risks reduced) of each regulation. The poor track record of regulatory economics in estimating *ex post* costs (with a bias towards overestimation) is well-known<sup>2</sup>, but there are much larger issues at work here. With colleagues at Princeton University, Resources for the Future, and elsewhere, I am conducting a multi-year study on the different ways risk scientists and regulatory economists handle uncertainty and interindividual variability in their respective domains. It is disquieting that much of the OIRA guidance, and essentially all of the Congressional regulatory “reform” proposals of the 1990s, aims its sights at improving risk science rather than regulatory economics, and even leaves the latter out of many key recommendations regarding rigor, transparency, peer review and the like that apply in spades to the former. Just to give one example: we accept that small individual risks can be “de minimus,” which implies directly that a regulation that reduced a de minimus environmental fatality risk to the entire U.S. population could save hundreds

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<sup>2</sup> See, for example, (1) Harrington, Winston, Richard D. Morgenstern and Peter Nelson (2000). “On the Accuracy of Regulatory Cost Estimates.” *Journal of Policy Analysis and Management*, **19(2)**, pp. 297-322. (2) Hazilla, Michael and R.J. Kopp. 1990. “Social Cost of Environmental Quality Regulations: a General Equilibrium Analysis.” *Journal of Political Economy*, **98**, pp. 853-873 (August). (3) Goodstein, Eban, and Hart Hodges (1997). “Polluted Data: Overestimating Environmental Costs.” *The American Prospect*, **35** (Nov./Dec.), pp. 64-69. (4) Office of Technology Assessment, U.S. (1995). *Gauging Control Technology and Regulatory Impacts in Occupational Safety and Health: An Appraisal of OSHA’s Analytic Approach*, report #OTA-ENV-635, September 1995, 102 pp. (5) Porter, Michael E. and Claas van der Linde (1995). “Toward a New Conception of the Environment-Competitiveness Relationship.” *Journal of Economic Perspectives*, **9(4)**, pp. 97-118.

of lives and yet be assessed as having exactly zero benefit (300 million increments of zero cumulate to zero). Yet we have no analogous concept of the “de minimus cost.” Similarly, we wring our hands over the possibility that a rule may “overprotect” the majority for the sake of providing adequate protection to a highly-exposed minority, and yet we rarely consider the rules that are *not* promulgated because the costs would fall on a highly-influential minority. Perhaps the major analytic reform in CBA, and at OIRA, in my opinion, involves the need to harmonize the treatment of like phenomena on both sides of the cost/benefit divide.

#### B. Problems with “Risk-risk” analyses:

OIRA should encourage the agencies to explore much more fully the indirect effects of their regulations, but only if it is willing to step back and take a *much* more even-handed and logical approach to “risk-risk tradeoffs” as well as to consider other important secondary effects. On the latter point, I agree with Revesz and Livermore that the Executive Order should require even-handed treatment of the secondary benefits of regulation as well as secondary harms -- and I would supplement their comments by emphasizing the secondary *economic* benefits of regulation. Agencies should be strongly encouraged to consider general-equilibrium measures of regulatory cost, so that OIRA will not continue to compare a tally of benefits (that includes offsetting ones) to a partial tally of costs (that ignores offsetting ones). But within the realm of ancillary risks alone, OIRA has consistently failed to realize that *not all purported trade-offs are real trade-offs*, for two fundamental reasons that the pioneers of the risk-risk literature have inexplicably not shown much interest in. First, many secondary risks are completely within the control of the regulated parties who may *claim* that they are inevitable. Whenever a regulation may make substitutes necessary or more attractive, there are always more or less perverse substitutes available. In one of the rules that OIRA reviewed when I was at OSHA, we were required on three separate occasions to attend a meeting with industry representatives and OIRA at which dire predictions were offered of the carnage our rule would cause “when” the industries

were forced to use riskier inputs and practices. With over 10 years' hindsight now available, it is clear that in none of these cases were these predictions in any way borne out, probably because the need to substitute away under the rule was exaggerated, but especially because there were (even at the time) more sensible adaptations available than the ones we were warned about. OIRA needs to be on guard for the "sham tradeoffs" analysis that depends on a fanciful behavioral assumption. The second major problem with penalizing one regulation by the size of the secondary risks it could engender is that this treats the two risks as zero-sum combatants rather than as a "wake-up call" to consider controlling *both* risks – and no one is in a better position than OIRA to respond by being more active rather than cringing in the face of such tradeoffs. If the industrial process at issue can only make use of one of two harmful substances, the option of controlling both in cost-beneficial ways must be considered, and OIRA must consider it if the Agency has not (or has been blindsided by the tradeoff late in the game).

Finally, I hope it goes without saying by now that the most tenuous indirect effect of all – the purported "richer is safer" effect by which regulatory costs can supposedly lead to increased fatalities – is not worthy of agency or OIRA attention at this time. IF the agencies and OIRA tried to identify *whose* wealth would decrease **and whose would increase** as a result of a particular regulation, there might be some value in tallying up *all* the indirect effects, positive and negative, of changes in wealth on changes in health. However, it has never been possible to estimate what effect, if any, changing an individual's wealth might have on her health – all the studies to date have attempted to contrast the health of populations that differ in income or wealth – and even at the population level, more recent studies have suggested that the sign of the possible wealth-health effect may have been wrongly estimated.<sup>3</sup>

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<sup>3</sup> See, for example, a series of recent empirical analyses by Christopher Ruhm suggesting that mortality may *decrease* and physical health may improve when the economy temporarily weakens.

## 5. *Distributional Equity:*

Perhaps no other issue in CBA and regulatory review has recently been the subject of more angst, but less specific progress, than the need to account for the equity consequences of agency action and inaction. At the outset, I take some issue with the comments of Professor Rose-Ackerman (p. 2 of her comments) that we should not add distributive weights to CBA. We *already* add distributive weights to CBA, in the form of an exactly equal weight of  $(1/N)$  to every member of the population affected. This may be a sensible default position, but is in no sense a value-neutral one.

I agree with the comments of Professor Adler that there are well-established ways to account for distributional equity in public policies, and that CBA should make much more use of them. However, both his comments and those of many other scholars in the field<sup>4</sup> seem to conceive of “equity” as a function of the distribution of benefits and costs to subgroups with *other* salient characteristics (particularly income) that distinguish them. As important as this issue is, the more fundamental phenomenon is the concentration of risk or cost *irrespective* of these other characteristics. *We need a way to get past the implicit insensitivity of benefits valuation to the concentration of risk (and of cost).* Most experts give lip service to the observation that the VSL (value of a statistical life) concept is not intended for use when individual risks are so high that they are *per se* unfair, or at least that these risks ought not to be valued only as proportionately greater than “small” risks. And yet, OIRA recently approved an OSHA regulation (hexavalent chromium) where the individual excess lifetime cancer risk *at the new exposure limit* was estimated to be in the range of one to four **percent** (that is, 10,000 to 40,000 times the one-in-one-million benchmark EPA often strives for). I assert that regardless of the income, race, gender, etc., of the workers covered by this regulation, the number of statistical fatalities OIRA accepted should not have been valued as if they were the consequence of a diffuse pattern of “small” risks.

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<sup>4</sup> See, e.g., a recent article by former OIRA Administrator John Graham (“Saving Lives through Administrative Law and Economics”) in the University of Pennsylvania Law Review (157:395-540).

I urge OIRA to convene a series of expert and public discussions to explore how agencies could use methods such as those described by Professor Adler to account for the premium society should place on reducing intolerably high individual risks, irrespective of the other characteristics of those facing them (and preferably even if we cannot specifically identify those at highest risk, but know that they exist).

#### ***6. Avoiding Undue Delay:***

As long as more senior officials can and will enforce the requirement, allowing 90 days for OIRA review of NPRMs and final rules seems to me reasonable in light of the overall complexity of the public process. However, other aspects of this process, particularly the recent (over)emphasis on academic-style peer review exercises over and above the more egalitarian and transparent (and rigorous, if participants choose to make use of them) opportunities for public comment, do add undue delay. This is especially so in the case of an agency such as OSHA that already conducts trial-type rulemaking hearings.

#### ***7. The Role of the Behavioral Sciences:***

As a separate file, I have transmitted a recent journal article (Finkel, A.M. (2008), "Perceiving Others' Perceptions of Risk: Still a Task for Sisyphus," *Annals of the New York Academy of Sciences*: **1128**: 121-137) that endorses a greater role for behavioral economics and neuroscience in risk management, but offers various cautionary remarks about the past misinterpretations of findings from these fields.

#### ***8. New Tools for Achieving Public Goals:***

First, I encourage OIRA to promote non-traditional forms of EHS protection that go beyond information dissemination and the largely-meaningless “alliances” and other voluntary programs that occupied so many Agency resources during the past eight years. In various circumstances that can often be identified in advance, traditional rulemaking *is* needlessly adversarial, dilatory, and inefficient – but superior forms of control need to set measurable goals and means to evaluate and enforce them. OSHA experimented in the late 1990s with “enforceable partnerships” – product stewardship and similar programs that depended on collaboratory drafting by industry and labor of codes of conduct, goals, and timetables, and emphasized the willingness of manufacturers to help improve the knowledge and compliance behavior of their industrial customers. In OSHA’s unique circumstances, these programs were enforceable via its “general duty” authority, but other agencies could package these sorts of ideas into contractual agreements.

Secondly, OIRA should get out of the “league table” business. These purported rank-orderings of the “bang for the buck” (usually conceptualized as the cost per life saved, or CPLS) of a diverse array of federal regulations are misleading on nearly every level and contribute almost nothing to sensible priority-setting. Other scholars, particularly Lisa Heinzerling<sup>5</sup>, have shown how bizarre the choices of entries in these tables have been since OIRA analyst John Morrall first began constructing them in the 1980s; many of the least “efficient” interventions were never codified by federal agencies (perhaps because of their high cost/benefit ratios), while many of the most “efficient” ones are not regulatory at all, but are free-market transactions (often with no further opportunities, as with many medical technologies, to find additional producers and consumers and “save more lives”). But even comparing the CPLS of actual agency rules is an easy calculation to botch. Even the ratio of only two CPLS estimates involves four highly uncertain inputs (the cost of each risk and its benefit), and the uncertainty in that ratio, never even hinted at in the OIRA “league tables,” is generally so large that

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<sup>5</sup> Heinzerling, L. (1998). “Regulatory Costs of Mythic Proportions.” *Yale Law Journal* 107(7): 1981-2070.

there is a significant probability that the rule or program touted as “better” may in fact be “worse” – even by the narrow and partial measure of “cost per some of the benefits” that OIRA seems to regard as definitive.<sup>6</sup> To the extent that the least “efficient” actual rules seem to have low total benefits because they protect a small and/or otherwise disadvantaged group, or because they provide benefits beyond reductions in premature mortality, these tables also pit programs against each other for no logical or productive reason.

### *Additional Suggested Text Changes for E.O. 12866*

#### **Section 1:**

- In (a), the “maximize net benefits” criterion is too restrictive and could lead to unwise results. For example, maximizing the absolute (as opposed to the relative) difference between benefits and costs biases the outcome towards more expansive, but not necessarily more efficient options. In other cases, important benefits (perhaps, but not necessarily, accruing to a specific subpopulation) might be extracted by going beyond the point at which absolute net benefit is maximized, but to a point where total benefits still exceed total costs. Agencies should be encouraged to “choose the regulatory (or other) alternative that most effectively meets the social goals of the regulatory program, considering benefits, costs, equity, and other factors.”
- In this same sentence of §1(a), the parenthetical phrase is ungrammatical: it appears that agencies are instructed to “maximize distributive impacts”. If the parenthetical is supposed to expand upon the concept of “net benefits,” it should mention costs and other factors that are “net” of benefits; if it is supposed to connote that there are factors that cannot necessarily be quantified as part of the net, it should instruct agencies to consider them, not “maximize” them.
- Section (b)(1) would be the logical place to supplement the “problem-focused” approach with a “solution-focused” one (see above). Agencies should be encouraged to identify the *opportunit(ies)* for transformative

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<sup>6</sup> See pp. 104-6 of the new National Research Council report **Science and Decisions: Advancing Risk Assessment** for a brief discussion of the special pitfalls of comparing two (let alone four or more) uncertain inputs to each other.

technological or other change that come(s) from confronting one or more problems and envisioning solutions to them.

- Similarly, in (b)(4), agencies should consider the nature of the costs and benefits of solutions to problems; setting purely risk-based priorities without thinking about the means and costs of control leads at best to a list of “what to worry about,” not a list of what to consider doing<sup>7</sup>.
- In (b)(5), there is no definition of “most cost-effective.” I urge OMB not to develop a definition that puts agencies in a straight-jacket with respect to one-dimensional measures of relative cost-effectiveness (i.e., one that denigrates approaches that may have slightly less “bang for the buck” than wholly different ones). Instead, the agencies should be encouraged to reject options that are *absolutely* less cost-effective (that is, provide fewer benefits at greater cost<sup>8</sup>), but should be free to choose options that are both marginally more beneficial and marginally more costly.
- In (b)(6), there are no definitions of either “cost” or “benefit” (and none in the definitional Section 3 either). Of the many logical ways to parse these terms, I encourage OMB to define “benefits” as changes in things that are not traded in markets (e.g., environmental quality, health, longevity) and “costs” as changes in quantities that are traded in markets. In this way, ancillary risks can be kept on the benefits side of the ledger (as offsetting the primary risk-reduction benefits of the regulation being considered), and all social costs of complying with and adapting to the regulation (including “negative costs” in the form of employment or price effects in secondary markets) can be kept on the net-cost side.
- In (b)(8), I urge OMB to rethink this fetish about performance standards over design/technology standards. To the enforcing agency, the latter can be much easier to document and can provide more assurance that regulatory goals will be met. Perhaps more importantly, regulated industries often prefer more specific regulatory guidance (or at least the option to select a specified “safe harbor”), their rulemaking comments notwithstanding. Surely the recent example of the OSHA ergonomics rule, where a Congressional veto was largely driven by industry opposition to the extreme performance-oriented nature of the regulatory text, should make this point obvious.
- The recommendations in (b)(11) constitute a more sensible (and probably a mutually inconsistent) decisional criterion than the “maximize net benefit” instructions above.

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<sup>7</sup> See, e.g., **Worst Things First? The Debate over Risk-Based National Environmental Priorities**, A.M. Finkel and D. Golding, eds., RFF Press, 1996, 345 pp.

<sup>8</sup> Or that differ from the preferred option only by being either more costly (for the same benefit) or less beneficial (for the same cost).

**Section 4:**

- The Regulatory Working Group would be a natural forum for regular discussion of pending agency actions that stand to transfer risks to another agency's constituents, of agency inaction that impedes the mission of another agency, and of opportunities for coordinated action to solve problems with less uncertainty and self-contradiction for the regulated community. In my experience during 1995-2000, the RWG did very little of the above, although we were understandably preoccupied during most of this time with the numerous regulatory "reform" proposals in Congress.

Thank you again for the opportunity to participate in this reevaluation of EO 12866.

Sincerely,



Adam M. Finkel, Sc.D.

Professor of Environmental and Occupational Health, UMDNJ School of Public Health  
and Fellow and Executive Director, Penn Program on Regulation, University of

Pennsylvania Law School

[afinkel@law.upenn.edu](mailto:afinkel@law.upenn.edu)

## APPENDIX A

[abstract of a December 2008 presentation at the annual meeting of the Society for Risk Analysis]

**“Solution-Focused Risk Assessment”**: Quickening the pace, accomplishing missions, expanding horizons. *Finkel AM\**; UMDNJ School of Public Health AND Penn Law School

**Abstract:** Re-conceptualizing risk assessment as a method for helping to solve environmental problems, rather than (merely) understanding environmental hazards, may provide three major classes of benefits over the status quo. First, it can help break the endless cycle of analysis: when the goal is to know enough to decide, rather than to know everything, natural stopping points emerge. Secondly, it can lead to more true decisions about risk reduction, rather than pronouncements about them. As much as agencies rightly value performance-oriented interventions, it is unfortunately the case that setting a permissible exposure limit or a national ambient air quality standard is often more a conclusion about what level of risk would be acceptable than any kind of guarantee that such a level will be achieved, let alone a decision about which actual behaviors will change and how. Third, it can promote expansive thought about optimal decisions, ones that resolve multiple risks simultaneously, avoid needless risk-risk tradeoffs, and involve affected stakeholders in debating what should be done. Arguably, the longer the disembodied analysis of risk information is allowed to proceed before solutions are proposed and evaluated, the more likely it is that the “problem” will be defined in a way that constrains the free-wheeling discussion of solutions (in other words, a new mirror-image adage that “if everything around you looks like a nail, the only question is what kind of hammer to pick out”). This presentation will explain these benefits with reference to several case studies of “what might have been,” and then proceed to anticipate some of the significant concerns with the notion of eliminating the organizational part of the “firewall” between risk assessors and risk managers.