http://online.wsj.com/articles/hank-campbell-the-corruption-of-peer-review-is-harming-scientific-credibility-1405290747

ITSSD Response to "The Corruption of Peer Review Is Harming Scientific Credibility" by Hank Campbell (WSJ 7-13-14)

Law Counsel Jul 16, 2014

Mr. Campbell's article is very timely, and frankly, very worrisome.

As Mr. Campbell correctly points out, "Some errors can have serious consequences if bad science leads to bad policy."

This is precisely what we have found to be the case at the Environmental Protection Agency (EPA).

Since 2013, the nonprofit Institute for Trade, Standards and Sustainable Development (ITSSD) has focused, in part, on whether EPA had properly validated the mostly third-party-developed climate-related highly influential scientific assessments (HISAs) primarily supporting the EPA's 2009 greenhouse gas (GHG) Endangerment Findings in conformance with US law. In particular, ITSSD has focused on whether EPA had satisfied the most rigorous and least discretionary peer review, objectivity/bias, transparency and conflict-of-interest standards of the US Information Quality Act (IQA).

The IQA is an obscure statute, but as I have written in the Washington Times, it serves as a bulwark against agency over-reliance on non-peer-reviewed grey literature and use of mostly qualitative as opposed to quantitative scientific evidence.

During March 2014, ITSSD filed Freedom of Information Act requests with EPA and with the National Oceanic & Atmospheric Administration (NOAA) (of the US Department of Commerce) incorporating its research findings seeking disclosure of all records ("climate science-related peer review files") demonstrating how these agencies' validation of the climate science supporting the Endangerment Findings had complied with the Information Quality Act.

The incorporated ITSSD research findings show that both EPA and NOAA had failed to adequately peer review its own developed assessments, those developed by other federal agencies and/or those developed by the IPCC which they heavily referenced.

ITSSD research findings contained within the FOIA request & clarification it filed with NOAA shows that, while NOAA had contracted with the National Academies of Science (NAS) to peer review six NOAA-developed assessments, the NAS, on six occasions, had hand-selected university scientists then receiving NOAA climate research grant monies to peer review the NOAA assessments, presenting a significant appearance of conflict-of-interest in violation of the Information Quality Act.

Notwithstanding ITSSD's filing of subsequent clarifications of its original FOIA requests, EPA and NOAA both feigned ignorance concerning their focus.

In addition, without thought or explanation, EPA also denied ITSSD's requests for a fee waiver under FOIA using boilerplate language and without explanation.

Following conference calls convened during June 2014 with each of the agencies and representatives from their respective Offices of General Counsel, ITSSD decided to heed their request to file new FOIAs and to withdraw the old FOIAs.

On June 30, 2014, ITSSD filed a new 145-page 600 endnote-annotated FOIA with EPA, accompanied by an addendum and 6 appendices. ITSSD's research incorporated therein overwhelmingly demonstrates that EPA had failed to meet its Information Quality Act standards as described above.

As reported in InsideEPA, on the same day, ITSSD's analysis goes far beyond the 2011 evaluation previously performed by the EPA Office of Inspector General (OIG). The EPA OIG analysis, which had been limited to only one of the four levels of obligation ITSSD analyzed, nevertheless found that EPA failed to satisfy the Information Quality Act's peer review and transparency standards. The InsideEPA article described four levels of Information Quality Act legal obligations that ITSSD findings, contained in its new FOIA, show EPA had failed to satisfy.

ITSSD's new FOIA request is available online for public viewing at the ITSSD website homepage (www.itssd.org).

However, ITSSD's (due) process-based inquiry of EPA's Information Quality Act noncompliance has not stopped at the edge of the US Clean Air Act.

ITSSD research also has discerned that EPA has systematically endeavored to circumvent its Information Quality Act obligations with respect to the highly influential scientific assessments underlying its proposed revision to the 'US navigable waters' definition contained within regulations interpreting the US Clean Water Act.

And, there is additional evidence that EPA noncompliance with the Information Quality Act extends to its the highly influential scientific assessments underlying other proposed changes to federal environmental statutes such as the Endangered Species Act and the Coastal Zone Management Act. Other federal agencies, as well, (e.g., NOAA, Department of Interior, etc.) are also engaged in such activities.

This points to a decision having been made at the White House. Indeed, the White House Office of Science and Technology Policy directed by Mr. Holdren, which oversees the interagency development of climate science assessments in fulfillment of the US Global Change Research Program which are later used as support for the National Climate Assessment and as support for restrictive and costly federal agency regulations at EPA, is the likely true source of this IQA circumvention strategy.

And, if it is true, as Justice Kagan wrote, the President regularly manages as well as oversees the operations of executive branch agencies to ensure their practices comport with what he considers to be his faithful execution of the laws that Congress enacts, then it is the President who is responsible for such strategy.

In the end, the administration's systematic circumvention of the Information Quality Act means that it has betrayed the trust we all have placed in the federal government to remain transparent and accountable to 'We the People'.

ITSSD research strongly suggests that the administration can no longer be relied upon as a credible source of climate science, if not all science that can somehow be related to administration climate science policy.

Hence, we all should thank Mr. Campbell for bringing to our attention the widening corruption of scientific peer review.

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The Corruption of Peer Review Is Harming Scientific Credibility

Dubious studies on the danger of hurricane names may be laughable. But bad science can cause bad policy.

By HANK CAMPBELL
July 13, 2014 6:32 p.m. ET

Academic publishing was rocked by the news on July 8 that a company called Sage Publications is retracting 60 papers from its Journal of Vibration and Control, about the science of acoustics. The company said a researcher in Taiwan and others had exploited peer review so that certain papers were sure to get a positive review for placement in the journal. In one case, a paper's author gave glowing reviews to his own work using phony names.

Acoustics is an important field. But in biomedicine faulty research and a dubious peer-review process can have life-or-death consequences. In June, Dr. Francis Collins, director of the National Institutes of Health and responsible for $30 billion in annual government-funded research, held a meeting to discuss ways to ensure that more published scientific studies and results are accurate. According to a 2011 report in the monthly journal Nature Reviews Drug Discovery, the results of two-thirds of 67 key studies analyzed by Bayer researchers from 2008-2010 couldn't be reproduced.

That finding was a bombshell. Replication is a fundamental tenet of science, and the hallmark of peer review is that other researchers can look at data and methodology and determine the work's validity. Dr. Collins and co-author Dr. Lawrence Tabak highlighted the problem in a January 2014 article in Nature. "What hope is there that other scientists will be able to build on such work to further biomedical progress," if no one can check and replicate the research, they wrote.

The authors pointed to several reasons for flawed studies, including "poor training of researchers in experimental design," an "emphasis on making provocative statements," and publications that don't "report basic elements of experimental design." They also said that "some scientists reputedly use a 'secret sauce' to make their experiments work—and withhold details from publication or describe them only vaguely to retain a competitive edge."

Papers with such problems or omissions would never see the light of day if sound peer-review practices were in place—and their absence at many journals is the root of the problem. Peer review involves an anonymous panel of objective experts critiquing a paper on its merits. Obviously, a panel should not contain anyone who agrees in advance to give the paper favorable attention and help it get published. Yet a variety of journals have allowed or overlooked such practices.

Absent rigorous peer review, we get the paper published in June in the Proceedings of the National Academy of Sciences. Titled "Female hurricanes are deadlier than male hurricanes," it concluded that hurricanes with female names cause more deaths than male-named hurricanes—ostensibly because implicit sexism makes people take the storms with a woman's name less seriously. The work was debunked once its methods were examined, but not before it got attention nationwide.

Such a dubious paper made its way into national media outlets because of the imprimatur of the prestigious National Academy of Sciences.

Yet a look at the organization's own submission guidelines makes clear that if you are a National Academy member today, you can edit a research paper that you wrote yourself and only have to answer a few questions before an editorial board; you can even arrange to be the official reviewer for people you know. The result of such laxity isn't just the publication of a dubious finding like the hurricane gender-bias claim. Some errors can have serious consequences if bad science leads to bad policy.

In 2002 and 2010, **papers published in the Proceedings of the National Academy of Sciences** claimed that a pesticide called atrazine was causing sex changes in frogs. As a result the Environmental Protection Agency set up special panels to re-examine the product's safety. **Both papers had the same editor, David Wake of the University of California, Berkeley, who is a colleague of the papers' lead author, Tyrone Hayes, also of Berkeley.**

In keeping with National Academy of Sciences policy, Prof. Hayes preselected Prof. Wake as his editor. Both studies were published without a review of the data used to reach the finding. No one has been able to reproduce the results of either paper, including the EPA, which did expensive, time-consuming reviews of the pesticide brought about by the published claims. As the agency investigated, it couldn't even use those papers about atrazine's alleged effects because the research they were based on didn't meet the criteria for legitimate scientific work. The authors refused to hand over data that led them to their claimed results—which meant no one could run the same computer program and match their results.

Earlier this month, Nature retracted two studies it had published in January in which researchers from the Riken Center for Development Biology in Japan asserted that they had found a way to turn some cells into embryonic stem cells by a simple stress process. The studies had passed peer review, the magazine said, despite flaws that included misrepresented information.

Fixing peer review won't be easy, although exposing its weaknesses is a good place to start. Michael Eisen, a biologist at UC Berkeley, is a co-founder of the Public Library of Science, one of the world's largest nonprofit science publishers. He told me in an email that, "We need to get away from the notion, proven wrong on a daily basis, that peer review of any kind at any journal means that a work of science is correct. What it means is that a few (1-4) people read it over and didn't see any major problems. That's a very low bar in even the best of circumstances."

But even the most rigorous peer review can be effective only if authors provide the data they used to reach their results, something that many still won't do and that few journals require for publication. Some publishers have begun to mandate open data. In March the Public Library of Science began requiring that study data be publicly available. That means anyone with the ability to check should be able to reproduce, validate and understand the

findings in a published paper. This should also ensure that there is much better scrutiny of flawed claims about sexist weather events and hermaphroditic frogs—before they appear on every news station in America.

Mr. Campbell is the founder of Science 2.0 and co-author of "Science Left Behind" (PublicAffairs, 2012).