Contracts, Overhead, and "Intellectual Critical Mass:"

Summary of Recent Critiques of the PIER Program

Senate Energy, Utilities and Communications Committee
Hearing on the Public Interest Energy Research Program (Part 2) -- March 1, 2011
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In helping the committee staff prepare for this hearing, I scrutinized previous reviews of the PIER program over the past few years. They included two in-depth reports by an independent panel of scientists in 2004/05, a 2008 hearing by then-Assemblyman Lloyd Levine, and a 2009 audit by the Department of Finance. Each team of reviewers raised distinct and substantive points – sometimes *very* substantive, for example questioning the wisdom of putting PIER under the Energy Commission in the first place. Occasionally, the reviews contradicted each other. Today, I'll spend a few minutes summing up the key findings from those earlier critiques – and link them to the LAO's assessment that you just heard.

PIER independent reviews, 2004 and 2005

The Public Resources Code directs that an independent panel be established to conduct comprehensive evaluations of the PIER program. The second of these independent review panels was convened in 2003 and managed by the California Council on Science and Technology. The panel issued a preliminary report in March 2004 and a final report in June 2005.

Pursuing the "external option": Both reports are articulate and persuasive in describing the need for the kind of public-interest research that PIER was created to promote. But – repeatedly – the panelists raised this question: Is a regulatory agency like the CEC the *best* vessel for managing a first-class research and development operation? They clearly believed the answer was "no."

From the 2004 preliminary report: "The current organizational structure of the CEC is not optimal for R&D. The CEC is a regulatory agency with limited flexibility, a near-term focus, and a risk-averse culture." In the 2005 follow-up report, the reviewers cautioned that "the very 'DNA' of the CEC may well prohibit the development of a sufficiently autonomous and robust

energy R&D program." Both reports said civil service rules hampered the hiring of a top-flight scientific staff.

To address this issue, in 2004 the reviewers asked the CEC to develop two parallel management plans, one to study PIER under the Energy Commission and the other "to include a structure outside the CEC," possibly a Joint Operating Authority. The panel requested that the two plans – internal and external -- be developed in time to be assessed in the 2005 final report.

The panel's chair, Carl Weinberg, reiterated the importance of the external option in a letter to the energy commission. He had a specific suggestion: "For the long-term health of the PIER program, we also recommend that the CEC move expeditiously and with due diligence toward creating a Joint Powers Authority for PIER with the University of California Office of the President or other appropriate research-oriented partner..."

The CEC did move quickly regarding the internal option – where the Energy Commission kept control of PIER. But, according to the panel's final report, the CEC failed to create a second plan with an external model. The reviewers suspected they knew why, noting "the hesitancies of an agency to move to a model of external, shared control for a program that enjoys a budget in excess of $60 million annually." Still, the panelists said they were disappointed at the lack of progress and urged CEC to move "rigorously and expeditiously" toward investigating an external model for operating PIER. This, they said, would "enable PIER to mature into a world-class energy R&D operation."

Last fall, CEC was asked by Senate committee staff about the status of the external option. The commission responded briefly that "this option was not pursued" because of concerns about compliance with state laws, policies and procedures.

Now the LAO has outlined its own version of the external option, suggesting that the Legislature consider a hybrid approach where a new coordinating council would replace the PIER program at the CEC.

Contracting out for expertise: In both the 2004 and 2005 reports, the review panel stressed the need for *both* permanent staff and contracted consultants – including short-term staff who rotate in from outside institutions. Such contractors play a "vital role in public R&D programs by contributing valuable research, technical and industry expertise," the reviewers said.

In the 2004 report, the panel noted that nearly all the contract staff had been laid off due to budget constraints: "The result is that PIER may have a lack of 'intellectual critical mass.'"

In its June 2010 response to the Senate Energy Committee, CEC said that it has reduced its staff of support contractors to a "single part-time science advisor." This reduction occurred even though "the contractors were eminently qualified and brought PIER substantial recognition as a research organization," the CEC wrote.

Assembly oversight hearing, 2008

Three years later, Assemblyman Lloyd Levine convened an oversight hearing that focused on the use of contractors at the California Energy Commission, including the PIER Program. Levine's Utilities and Commerce Committee delved into multiple issues involving contract workers: possible conflicts of interest, loss of accountability, confusion caused by giving contractors Energy Commission phone numbers and email addresses, and the implications of paying overhead costs for multiple layers of administration.

Too many contractors – or too few? While the 2004/05 review insisted that PIER must contract with outside experts to maintain a cutting edge, the Assembly committee chided the Energy Commission for using so many contractors. The committee expressed concern about potential conflicts of interest if a PIER contract consultant was in a position to guide work to his own institution or company.

Chairman Levine questioned why CEC hired a contractor, at $250,000 a year, to be director of PIER, rather than using a state employee. (The contractor was Dr. Martha Krebs of the University of California.) CEC, no doubt feeling it couldn't win, responded that it was following the recommendation of the 2005 review panel that "conducting a world-class research and development program managed by state employees alone would be insufficient to bring about the full range of ratepayer benefits." Even so, PIER then eliminated almost all of its contracted advisors.

In its 2010 responses to the Senate, CEC stated that the head of PIER is now a Career Executive Appointment position in the state civil service. Meanwhile, the number of PIER's outside contractors has shrunk from 19 to just one part-timer: Dr. Krebs. The commission did not comment on how PIER's standing as a world-class R&D program was affected by this.

Overhead -- Chairman Levine noted that the PIER program allocates 10 per cent to cover its own overhead -- then often hires the University of California to administer grants. The UC charges PIER about 30 percent for overhead, on average (though one major UC contract charged 40 percent). Therefore, the assemblyman concluded, up to 50 cents of every dollar -- collected from ratepayers to fund cutting-edge research – goes instead to administrative overhead. The way he framed this question gives a clue to the tone of that hearing: *Do you know about what percentage ends up trickling down to actual research?*

Department of Finance Audit, 2009

This January 2009 audit was requested by the Energy Commission in response to questions raised in the Levine hearing. The audit identified substantive problems in several areas, such as bypassing competitive bidding, lack of transparency in contracting, and excessive overhead costs. Most of the issues centered on PIER's complex relationship with the University of California.

Hefty overhead and unnecessary duplication -- The auditors' assessment was blunt: "The commission's management of the PIER program has resulted in excessive administration costs, reducing the funds expended on research, development and demonstration activities." A chief cause of this, according to the auditors, was the use of prime contracts with the UC to award funds. One example tracked four layers of administration, each with its own overhead:

Energy Commission >
University of California >
California Institute for Energy and Environment >
Lawrence Berkeley National Laboratories (which finally awarded the funds to three sub contractors)

The auditors also criticized PIER for having two separate prime contracts with UC that appeared to be "functionally equivalent," which is not a sound business practice.

In its response to the audit, CEC stated: "The Energy Commission takes fiscal oversight very seriously." It said the CEC has negotiated lower overhead rates with UC and that CEC is negotiating a new prime contract with UC that will combine the two previous contracts into one agreement.

Preparing for this hearing, the Senate Energy Committee requested specific answers to questions raised by the auditors. The CEC responded: "The Energy Commission has already addressed, or is in the process of addressing, all of DOF's audit observations, including those dealing with contractual noncompliance." The Commission said it was re-negotiating overhead rates and would be eliminating one of its overarching management contracts with UC by the end of 2010.

The commission provided statistics demonstrating that 23 percent of PIER dollars went to UC over the past 14 years. The Senate Oversight office did its own analysis of the data and found that PIER's reliance on UC to administer research grants has grown steadily. Last year, 38 percent of PIER funds went to the university. Since 1997, UC has handled a total of $157 million in PIER

funds –$47 million of it going to UC overhead, based on an average rate of 30 percent. (See attached chart.)

Circumventing competitive bidding – The 2009 audit raised another issue involving PIER's relationship with the UC. At that time, PIER had two "prime" contracts with the University of California – the Master Research Agreement (MRA) and the Basic Ordering Agreement (BOA). The auditors said that these broad contracts could be used to avoid open bidding: "Further, in our interviews and survey, staff consistently stated that the contracting/subcontracting policy and the [two UC prime] contracts were ways to circumvent standard practices. Specifically, staff stated that [these contracts] are convenient tools to bypass the standard process."

PIER contracts with the UC are not competitively bid because the university is a governmental entity. However, the auditors found that tasks were sometimes assigned to a third party outside the UC and "none of the tasks assigned were competitively bid." The auditors recommended reevaluating the use of prime contracts and non-competitive bidding practices. Also, they encouraged direct contracting with parties.

In its response to the audit, CEC said it has ended the practice of UC subcontracting with non-UC. During the Senate's August 2010 hearing on PIER, commission witnesses said the BOA contract would be shuttered by the end of the year and the MRA contract was being renegotiated.

Failure to monitor and collect intellectual property payments -- The audit states: "The Public Resources Code requires that an equitable share of rights in the intellectual property or in the benefits derived therefrom shall accrue to the state." But the auditors found that projects are *not* tracked or monitored for royalty payments.

Senator Alex Padilla, chairman of the Senate Energy Committee, questioned commission witnesses about royalty collection during the initial PIER hearing last summer. They told him that royalties have never been a high priority for PIER.

"We don't typically expect payback with royalties," PIER chief Thomas Kelly said. He said much of PIER's research is not patentable. Melissa Jones, CEC executive director, said she has directed her staff to start tracking royalties better.

PIER's UC and Non-UC contracts, 1997- 2010

At an average overhead rate of 30%, $47 million of UC's $157 million went to overhead.

Year	UC	Non UC	Total	% UC	% Non-UC
1997	$6,000	$243,000	$249,000	2%	98%
1998	$4,240,853	$49,689,732	$53,930,585	8%	92%
1999	$2,377,893	$44,874,863	$47,252,756	5%	95%
2000	$4,298,919	$11,936,194	$16,235,113	26%	74%
2001	$6,712,388	$67,460,940	$74,173,328	9%	92%
2002	$10,868,904	$48,344,114	$59,213,018	18%	82%
2003	$13,130,170	$42,811,380	$55,941,550	23%	77%
2004	$21,700,024	$58,622,421	$80,322,445	27%	73%
2005	$10,637,582	$32,449,670	$43,087,252	25%	75%
2006	$12,193,522	$26,141,675	$38,335,197	32%	68%
2007	$19,301,451	$38,624,192	$57,925,643	33%	67%
2008	$13,197,543	$26,501,592	$39,699,135	33%	67%
2009	$24,717,925	$54,696,156	$79,414,081	31%	69%
2010	$13,744,782	$21,969,575	$35,714,357	38%	62%
Total	$157,127,957	$524,365,505	$681,493,462	23%	77%

Source: California Energy Commission