October 2, 2012

California Energy Commission Dockets Office, MS-4
1516 Ninth St.
Sacramento, CA

Subject: Docket No. **12-EPIC-01**

To the California Energy Commission:

Thank you for the opportunity to comment on the Proposed 2012-14 Triennial Investment Plan for the Electric Program Investment Charge (EPIC). For context and perspective, this letter provides a brief background on SRI International (SRI) before addressing CEC's Questions for Stakeholders.

SRI International

SRI is a non-profit research institute headquartered in Menlo Park, California. Since our founding in 1946, SRI has been committed to discovery and to the application of science and technology for knowledge, commerce, prosperity, and peace. SRI conducts client-sponsored research and development for government agencies, businesses, and foundations. We employ 2,500 people worldwide, with more than 1,500 located at multiple California locations. To date, SRI has created and launched more than 40 spin-off ventures, with a total market capitalization exceeding $25 billion. Many of these ventures, such as Intuitive Surgical, start in California and create jobs in the state. Intuitive Surgical, still headquartered in Sunnyvale, now has more than 2,000 employees worldwide. SRI also licenses its technologies, which are incorporated into widely used products—ranging, for example, from the computer mouse in the 1960s to Siri, the virtual personal assistant in Apple's iPhone.

SRI's Center for Science, Technology, and Economic Development builds, manages, and evaluates R&D programs. Based on SRI's experience designing research institutions and operating a research institute, we are pleased to have the opportunity to share with CEC what we have learned about effective research program design and administration.

SRI's Response to CEC's Questions for Stakeholders

CEC has a comprehensive process in place to collect and evaluate stakeholder input regarding program scope and funding priorities for California ratepayers. For this reason, SRI will limit its comments to program administration.

SRI International
333 Ravenswood Avenue • Menlo Park, California 94025-3493 • 650.859.2000

Project Match Funding

Some funding organizations require cost sharing or matching funds, meaning that a portion of project or program cost is not borne by the funding agency. Many organizations at the forefront of developing new technologies, such as universities, small businesses, and non-profits, are the least able to provide cost share. While CEC must award contracts based on the best value for its investment, CEC should be aware of unintended consequences frequently associated with cost-share requirements at the applied research stage. Unintended consequences can include:

- Limited access to the best ideas. Groups unable to come up with cost share are unable to submit their ideas when cost share is required.
- Potential for ratepayers to pay twice. Cost share does not necessarily augment or minimize a ratepayer's investment if the cost share is provided by a state-supported institution using resources paid for by taxpayers.
- Increased administrative costs to applicants and funding organizations. The process of obtaining cost share and auditing compliance increases administrative costs for both the award recipient and the funding agency.
- Bias toward institutions that are strong at raising private funds. An institution's ability to provide cost share doesn't always correspond to the quality of their idea.
- Potential constraints on commercialization. Institutions that are unable to provide their own cost share frequently seek support from an outside party, which often involves giving up some of the intellectual property (IP). In general, engaging in the commercialization process is more complex when multiple parties control the IP—and early-stage technologies frequently develop in unexpected ways, requiring new partnerships for the technology to reach the market.

Some government organizations, such as the National Institutes of Health, have changed their policies so cost sharing is no longer required or considered. SRI agrees with CEC's decision not to require cost share for applied research and encourages the organization to use caution in its requirements for technologies at the early demonstration stage.

Funding Priorities

As noted above, cost-share requirements can severely limit a funding organization's access to the best ideas. Recognizing the benefits associated with getting California's research proposals considered for federal funding, and the challenges that organizations face to come up with cost share, CEC has taken steps to help California companies find cost share and win federal funds. For example, in 2010, the Energy Commission allocated approximately $73M from two of its existing programs (PIER and the Alternative and Renewable Fuel and Vehicle Technology Program) as ARRA cost-share[1], ultimately providing about $55M in matching funds to leverage $620M in federal funds[2]. A simple,

[1] 2010 Integrated Energy Policy Report Update,CEC-100-2010-001-CMF p. 3
[2] Ibid, p. 17

transparent, permanent program that all non-profits, universities, and small businesses operating in the state can access to fund research conducted in the state could offer significant benefits. Specifically, an ongoing program could:

- Leverage the investment in energy research made by California ratepayers and increase California's ability to attract federal energy research funds
- Broaden the mix of organizations addressing energy challenges and ensure that all good ideas from California research organizations are put forward for consideration
- Increase the likelihood that energy innovations will come out of California, be commercialized by California companies, create jobs in California, and address California's energy goals
- Help energy researchers move their innovations farther down the commercialization path without giving up intellectual property
- Keep California competitive with other states that provide cost share for energy research

An effective match program will have the following characteristics:

- A simple application process
- Quick turnaround. Ideally applicants would be able to apply for funds the day after a solicitation is issued and receive a conditional approval for match within 5 to 10 business days. CEC would only make cost share available when a federal research program is consistent with EPIC goals. Match funds would only be awarded if the contract is won and as the research is performed in accordance with the federal contract.
- Access to multi-year funding commitments

The Department of Energy's (DOE's) 2013 congressional budget requests nearly $90M in federal funds to support research conducted through the Energy Efficiency and Renewable Energy (EERE) program in California during FY 2013[3]. The budget requests additional funds for California through other programs—such as ARPA-E, research programs to support electricity delivery and energy reliability, and carbon capture or storage research through DOE's Fossil Energy program—that may be consistent with EPIC goals. Assuming approximately $100M in federal energy funding and typical cost-share requirements of 20% would imply that CEC could easily see demand for as much as $20M in annual funding requests.

Providing cost share could increase the share of federal funds that come to California. EERE's total FY 2013 budget request is $2,227M, which means that EERE anticipates spending just under 4% of its budget in California[4]. Given the state's size and

[3] *Department of Energy FY 2013 Congressional Budget Request State Tables Preliminary*, p. 11, http://www.cfo.doe.gov/budget/13budget/Content/States%20Table.pdf

[4] U.S. *Department of Energy FY 2013 Summary Control Table by Appropriation* p. 3, http://www.cfo.doe.gov/budget/13budget/Content/Appcon.pdf

commitment to energy research, California research organizations and companies may be able to win a larger portion of these funds with more cost-share support. A consistently funded, transparent process to quickly access cost share could be a very effective way to leverage ratepayer investment in energy research.

Intellectual Property

As CEC acknowledges in its draft plan, poorly designed IP practices can impede, rather than accelerate, technology commercialization. SRI encourages CEC to treat IP in a manner comparable to the Bayh-Dole act, which gave U.S. universities, small businesses, and non-profits control of their inventions and other intellectual property that resulted from government funding. Consistency with this federal law will help keep administrative costs low.

Non-profits typically commercialize technology through spin-out companies or licensing agreements. In SRI's experience, royalty requirements and restrictive IP provisions limit our ability to establish or form agreements with companies that can bring our technologies to market. In general, the best return to California is likely to be through tax revenues from the economic growth that is created. Having the state take royalties reduces incentive to innovators, makes it harder for start-ups to succeed, and may reduce tax revenues in the long run.

Other Comments

SRI appreciates that CEC, CPUC, and the state legislature are making every effort to keep administrative costs for this ratepayer-funded research program low, but it is important to recognize the tremendous cost to maintain the laboratories, libraries, offices, and staff that support cutting-edge research organizations. Under the PIER program, SRI was unable to bid on several projects because the indirect cost recovery rates did not cover the costs to maintain our research facilities, and we were unable to subsidize the research. We encourage EPIC to use the same guidelines for cost recovery as federal government agencies and to reimburse research organizations with extensive laboratory facilities at a level that allows them to maintain up-to-date facilities.

SRI agrees that research centers can be a valuable way to bring together researchers, industry, and manufacturing and policy experts. We hope that *all* qualified institutions, including non-profit research organizations as well as universities and national laboratories, are encouraged to participate in the competitive process that CEC intends to establish to create energy research centers.

SRI would be pleased to answer any questions CEC may have regarding this letter.

Sincerely,

Barbara Heydorn
Director, Center of Excellence in Energy