

**CALIFORNIA ALTERNATIVE ENERGY AND
ADVANCED TRANSPORTATION FINANCING AUTHORITY**

Request to Approve Project for SB 71 Sales and Use Tax Exclusion (STE) ¹

**CALIFORNIA INSTITUTE OF TECHNOLOGY
Application No. 10-SM028**

Wednesday, December 15, 2010

Prepared By: *Heather Williams*

SUMMARY

Applicant – California Institute of Technology

Location – Pasadena, Los Angeles County

Industry – Solar Fuel Generators

Project – Research and Development (R&D) Facility for Solar Fuel Generators

Value of Qualified Property – \$13,400,000

Estimated Sales and Use Tax Exclusion Amount² – \$1,219,400

Estimated Net Benefits – (\$516,738)

Application Score –

Fiscal Benefits Points:	576
<u>Environmental Benefits Points:</u>	<u>0</u>
Net Benefits Score:	576
<u>Additional Benefits Points:</u>	<u>20</u>
Total Score:	596

Staff Recommendation – Approval upon a finding that the Project is in the public interest and advances the purpose of the Program pursuant to California Code of Regulations Section 10033(C)(6).

¹ All capitalized terms not defined in this document are defined in the Program's statute and regulations.

² This amount is calculated based on the average statewide sales tax rate of 9.1%.

THE APPLICANT

The California Institute of Technology (“Caltech” or “Applicant”) was founded on September 23, 1891 in Pasadena (Los Angeles County) where it is still located today. Caltech is a private research university, a non-profit public benefit corporation with the mission to “expand human knowledge and benefit society through research integrated with education.”

Caltech is the prime contractor for the Joint Center for Artificial Photosynthesis (JCAP). JCAP is a newly established Energy Innovation Hub funded by the U.S. Department of Energy (DOE) under a cooperative agreement awarded to Caltech. The JCAP project also consists of three subcontractors: Universities of California at Santa Barbara, Irvine, and San Diego. Additional key partners in JCAP are two DOE National Laboratories: Lawrence Berkeley National Laboratory (LBL) and the SLAC National Accelerator Laboratory.³ The equipment funding from the DOE is spread out over the 5-year period of the cooperative agreement.

The Caltech Board of Trustees has fiduciary responsibility for JCAP per its contract with the DOE.

The officers of Caltech are:

A complete list of Caltech’s Board of Trustees is provided in Attachment A.

Kent Kresa – Chairman, Board of Trustees
David L. Lee – Vice Chariman, Board of Trustees
Jean Lou A Chameau – President
Edward M. Stolper – Provost
Charles Elachi – VP and Director, JPL
Dean W. Currie – VP Business and Finance
Sharon E. Patterson – VP Treasurer
Victoria Stratman – General Counsel
Scott Richland – CIO

The officers of JCAP are:

Dr. Nathan Lewis – Director, JCAP, Caltech
Dr. Rody Stephenson – Acting Associate
Director, JCAP, Caltech
Dr. Harry Atwater – Department Head,
Accelerated Discovery, JCAP, Caltech
Dr. Peidong Yang – Department Head,
Science-Based Scale Up, JCAP, LBL

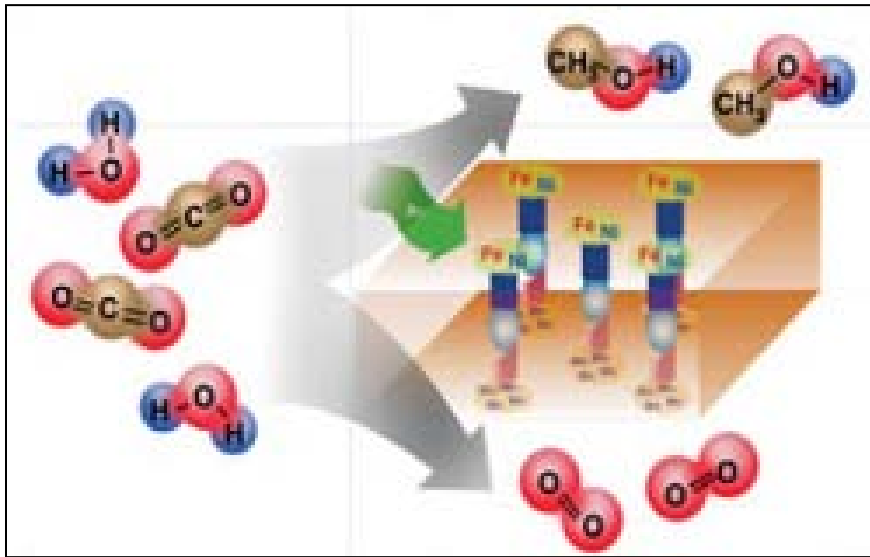
The Board of Directors of JCAP are:

Dr. Ed Stolper – Provost, Caltech
Dr. Jaqueline Barton – Chair, Division of
Chemistry and Chemical Engineering, Caltech
Dr. Ares Rosakis – Chair, Division of
Engineering and Applied Science, Caltech
Dr. Fred Anson – Professor Emeritus,
Chemistry, Caltech
Dr. Horst Simon – Deputy Director, LBL
Dr. Graham Fleming – Vice President for
Research, UC Berkeley
Dr. Jay Keasling – Physical Biosciences
Division, LBL

³ The entity was formerly named the Stanford Linear Accelerator Center and changed its name in October 2008.

THE PROJECT

The purpose of the JCAP project is to perform the research, development and initial deployment of a system that produces fuel directly from sunlight, specifically through a technological approach denoted as artificial photosynthesis. The artificial photosynthesis process is one in which, like a leaf, the only inputs are sunlight and abundant chemical feedstocks such as water and carbon dioxide, with the sole system output being chemical fuel, either hydrogen or carbon-containing fuels such as methanol, methane, or other hydrocarbons. In such a system, renewable energy from sunlight would be converted directly into non-polluting chemical fuels, with nearly no associated net greenhouse gas emissions or associated environmental impacts.



Artificial Photosynthesis

Prototype solar fuels generator systems exist in the laboratory, but have not yet been commercialized widely. This is because out of the three required attributes – robustness, cost-effectiveness, and efficiency – only two out of the three can now be obtained in any given system. The goal of the JCAP project is to perform the R&D to obtain all three attributes in a solar fuels generation system that can be manufactured at scale.

Currently, there are two implementations of solar fuel generation systems. The first is photosynthesis which makes fuels in the form of biofuels. The second is to use renewable electricity in conjunction with electrolysis to make hydrogen. The goal of JCAP is to create an artificial photosynthetic solar fuels generator that combines the most desirable attributes, and avoids the inherent drawbacks (high costs, complexity and inefficiencies), associated with the two approaches. JCAP plans to develop systems that produce fuel much more efficiently than photosynthesis, yet do not have the complexity or cost associated with the production of solar electricity and solar electricity's conversion by electrolysis into fuels. Using nanotechnology, JCAP will develop light absorbers, catalysts, and a plastic membrane to directly produce chemical fuels from sunlight, with no wires and no involvement of living systems. Its product will be able to be rolled out onto a field or rooftop, and when sunlight and water are provided, its

output will be entirely chemical fuel that can be collected and then used on demand, regardless of the intermittency of the sunlight that was used as the sole energy input to the system.

The JCAP project itself will not manufacture end-use products. Rather it plans to produce prototype devices at significant scale to demonstrate the technology. Other JCAP products will include intellectual property, peer-reviewed technical papers, well-educated students, the development of experienced staff, graduate students, and post-doctoral experts and potential collaborations with industrial and academic partners beyond the original participants.

The JCAP project is centered in two hubs. The Northern Hub is at Lawrence Berkeley National Laboratory, and the Southern Hub (“JCAP South”) is housed at Caltech. The equipment in this Application will be located at JCAP South.

ANTICIPATED COSTS OF QUALIFIED PROPERTY

The anticipated Qualified Property purchases are listed below:

Instruments for Fabrication of Materials

Inert Atmosphere Boxes (10)	\$ 400,000
High Pressure Liquid Chromatography (3)	100,000
Optical Microscope	50,000
Hamilton Microlab STARlet	120,000
Ink jet Synthesis Systems (8)	250,000
Robotic Systems for Sol-gel/dip synthesis (4)	1,000,000
Auto Physical Vapor Deposition System	750,000
CCD Absorbance Screening System (4)	240,000
Commercial Software	100,000
Servers/Storage Systems/Workstations	1,000,000
Atomic Layer Deposition System	400,000

Instruments for Characterization of Materials

UV-vis Spectrometer with Integrating Sphere	70,000
Fourier Transform Infrared with Raman	80,000
Fourier Transform Infrared with Surf Measurement Accessories	80,000
Fourier Transform Infrared Step-Scan Spectrometer	150,000
Time-Resolved Microwave Spectrometer	60,000
X-ray Powder Diffraction Spectrometer (automatic)	350,000
X-ray Photoelectron Spectrometer High Resolution	1,300,000
Probe Station	100,000
Quantum Yield Screening System	250,000
Lifetime Screening System	250,000
X-ray Photoelectron Spectrometer High Throughput System	600,000
X-ray Photoelectron Spectrometer/UPS/Auger Reaction Chamber	1,000,000
Scanning Electron Micros Field Emission/EDX/EBIC	1,000,000

Qualified Property Purchases continued:

Surface Reaction Chamber	700,000
Scanning Tunneling Microscopy/Atomic Force Microscopy Variable Temperature High Vacuum	800,000
Confocal Raman Microscope	300,000
Photoluminescence Microscopy with 4K Capability	200,000

Instruments for Performance Characterization

Gas Chromatograph (gas analysis) (3)	140,000
Gas Chromatograph with Flame Ionization Detector	50,000
Photocurrent Spec (IPCE)	70,000
Nuvant Array Stat 25 Channel Potentiostat (2)	80,000
Electrochemical Impedance Spectroscopy/Potentiostat (3)	160,000
Electrochemical Multiwell/Photo-electro-chemical System (4)	<u>1,200,000</u>
Total	<u>\$13,400,000</u>

Note: The Qualified Property purchases reported in the Application and shown here in staff's report are estimated costs. At the termination of the conveyance/reconveyance agreement a finalized project equipment list will be prepared detailing the value of the Project equipment conveyed and reconveyed and detailing the actual tax benefit realized pursuant to Revenue and Tax Code Section 6010.8. Variations from the costs shown in the Application and in this report may occur prior to the closing due to increased costs of certain components of the Project from original estimates, and other reasons. In addition, such costs may vary after closing due also to increased costs, as well as common design and equipment modifications during construction, differences in equipment due to future changes in law or regulation or for other reasons.

TIMELINE

The JCAP project officially began on September 29, 2010. A building on the Caltech campus has been assigned which will house all of the equipment and staff for JCAP South. It is currently being refurbished, and it is expected that staff will begin moving into the building by March 2012. Meanwhile, temporary laboratory and office space in several existing campus buildings has been assigned for the Project. The Qualified Property will be purchased over a span of five years: in year one of the project approximately \$3.2 million will be expended, in year two approximately \$5.1 million, in year three approximately \$2.5 million, in year four approximately \$1.5 million and in year five approximately \$1.1 million will be expended.

PROJECT EVALUATION

NET BENEFITS

The total cost of the Qualified Property purchases is anticipated at \$13,400,000 and the total net benefits are valued at **-\$516,738** for the Project. **The Project received a Total Score of 596 which does not meet the required 1,000 point threshold, and a total Environmental Benefits Score of zero which does not meet the 100 point threshold under the Program.** The Applicant’s relatively low score, particularly in the environmental benefits area, reflects the fact that the output of this phase of the project will not be a commercial product capable of producing fiscal and environmental benefits, but rather a technology with significant potential to create substantial benefits in these areas, as well as additional benefits as explained further in the section “Finding of Public Interest” below.

- A. Fiscal Benefits (576 points).** The net present value of the total fiscal benefits over the lifetime of the Qualified Property is derived from the Applicant’s sales taxes, personal income taxes paid by the firms employees, firm taxes on profits, property taxes and other indirect fiscal benefits of the Applicant which amounts to \$702,662 resulting in a Fiscal Benefits score of 576 points for the Project.

- B. Environmental Benefits (0 points).** The Project results in \$0 of total pollution benefits over the life of the Facility resulting in an Environmental Benefits Score of zero points for the Project.

- C. Additional Benefits (20 of 200 points).** Applicants may earn up to 200 additional points for their Total Score. The applicant submitted information and received 20 additional points.
 - 1. Permanent Jobs (20 of 40 points).** The Applicant’s Project will support a total of 82 jobs at its Facility. CAEATFA estimates that approximately 9 of these jobs will be attributable to a marginal increase in jobs created due to the approved STE resulting in a Permanent Jobs Score of 20 points for the Project.

 - 2. Construction Jobs (0 of 20 points).** The Applicant’s Project will support a total of 51 construction jobs at its Facility. CAEATFA estimates that approximately 6 of these jobs will be attributable to a marginal increase in jobs created due to the approved STE. Zero points were awarded because the marginal increase in jobs created does not meet the required threshold.

FINDING OF PUBLIC INTEREST

A. Total Score and Environmental Benefits Evaluation.

Caltech earns zero points toward the 100 point minimum threshold value in its Environmental Benefits Score and 576 points toward the 1,000 point minimum threshold value in its Total Score under the Program evaluation criteria.⁴ This is due to the fact that the facility does not manufacture or sell commercial products; rather it is intended to generate intellectual property, published research, educated students, and new technologies with significant potential to produce both fiscal and environmental benefits for the State of California. If the technology which is the focus of this Application is successfully commercialized, a significant industry could be created in California with the potential to manufacture renewable energy generation equipment, consistent with the purposes of the program. Therefore, it is expected that the Caltech Project will ultimately create net positive fiscal and environmental benefits for the State.

In addition, staff believes the Project is in the public interest and advances the purpose of the SB 71 Program. As a research university and non-profit public benefit corporation with the mission to “expand human knowledge and benefit society through research integrated with education,” the Applicant’s mission is consistent with advancing the public interest. The Applicant’s partners in this effort include four University of California campuses (Berkeley, Santa Barbara, Irvine, and San Diego) which also actively work in favor of the public interest of California. Additionally, this is a Project that is leveraging federal funds through a grant from the DOE. Finally, in addition to the renewable energy technology that is the focus of the Application, the Project will produce educated students and published research, both of which have the potential to advance the public interest.

Regarding the advancement of the purposes of the Program, according to SB 71 the purpose of the program is to “promote the creation of California-based manufacturing, California-based jobs, the reduction of greenhouse gases, or reductions in air and water pollution or energy consumption.” While this Project is not directly manufacturing components, it is anticipated that the Intellectual Property generated from JCAP will result in spin-off companies and new ventures that will commercialize this technology and lead to many green jobs and deployment of solar fuel generators with the potential to generate renewable energy without significant greenhouse gas emissions. California has significant solar resources (sunlight) and ample space to site large solar conversion devices that will produce fuel. Due to California’s favorable solar resources, a large percentage of this new industry and the resulting fuel production will likely take place in California. Caltech anticipates that companies will build upon JCAP’s research to scale up the device manufacturing processes and will begin producing and deploying sun-to-fuels generator arrays all over the Southwest. JCAP’s role in the development of both the manufacturing equipment and the fuel production itself would clearly advance the purposes of the Program.

⁴ 4 CCR 10033(C)(6)

As authorized by the Regulations, the Executive Director therefore recommends that the Authority waive the threshold value for the Environmental Benefits Score and Total Score for the Caltech Application,⁵ given the Project is in the public interest and advances the purposes of the Program.

B. Minimum Purchase Compliance.

Per CAEATFA regulations⁶ an Applicant is required to purchase at least 25% of the Qualified Property within one year of the Authority’s approval of the Application and complete all purchases within three years. However, per the CAEATFA Regulations, upon a finding that it is in the public interest and advances the purposes of the Program, the Authority may waive these standard requirements.⁷

Caltech has requested that CAEATFA waive these requirements. This request results from the fact that the Caltech equipment funding from the DOE is spread out over the 5-year period of their cooperative agreement. This agreement dictates the amount of funds that can be spent each year.

Therefore, as authorized by the Regulations, the Executive Director further requests that the Authority find that this Project is in the public interest and advances the purposes of the Program and waive the requirements of Sections 10035(c)(1) pursuant to sections 10035(c)(1)(i-ii).

STATUS OF PERMIT/OTHER REQUIRED APPROVALS

Construction permits will be needed for the building refurbishment for JCAP South to insure that it meets all applicable building and fire codes. A permit for soft demolition is needed in December 2010, a structural permit in January 2011, and a building permit in late January/early February 2011. Caltech expects no delays to the building rehabilitation schedule due to the construction/building permitting requirements.

LEGAL QUESTIONNAIRE

Staff reviewed the Applicant’s responses to the questions contained in the Legal Status portion of the Application. The responses did not disclose any information that raises questions concerning the financial viability or legal integrity of this Applicant.

⁵Per 4 CCR 10033(C)(6) : “...where a project receives a total score of less than 1,000, a TPB score of less than 100, or both the Executive Director may recommend it to board for approval upon a statement articulating specific reasons why the approval is in the public interest and advances the purposes of the Program.”

⁶ 4 CCR 10035(C)(1)

⁷ 4 CCR 10035(C)(1)(i-ii)

CAEATFA FEES

In accordance with CAEATFA Regulations,⁸ the Applicant has paid CAEATFA an Application Fee of \$5,000 and will pay CAEATFA an Administrative Fee of up to \$53,600.

RECOMMENDATION

Staff recommends approval of:

- pursuant to 4 CCR 10033(C)(6), the statement by the Executive Director that it is in the public interest and advances the purposes of the Program to waive the threshold values for reasons including, but not limited to, the Projects generation of intellectual property, published research, educated students, leveraging of federal funds and new technologies with ultimate fiscal and environmental benefits to the State;
- pursuant to 4 CCR 10035(C)(1)(i), a finding that it is in the public interest and advances the purposes of the Program to waive the requirement that the first year purchases of Qualified Property are at least twenty-five percent of the total amount listed in the approved resolution in order to allow the purchases to coincide with the terms of the DOE grant;
- pursuant to 4 CCR 10035(C)(1)(ii), a finding that it is in the public interest and advances the purposes of the Program to waive the requirement that all purchases of Qualified Property be made within three years of the Application approval in order to allow the purchases to coincide with the terms of the DOE grant; and
- Resolution No. 10-SM028 for California Institute of Technology’s purchase of Qualified Property in an amount not to exceed \$13,400,000 anticipated to result in an approximate sales and use tax exclusion value of \$1,219,400.

⁸ 4 CCR 10036

**RESOLUTION APPROVING AND AUTHORIZING EXECUTION OF A TITLE
CONVEYANCE AGREEMENT WITH THE CALIFORNIA INSTITUTE OF
TECHNOLOGY**

WHEREAS, the California Alternative Energy and Advanced Transportation Financing Authority (the “Authority” or “CAEATFA”) has received the Application of **California Institute of Technology** (the “Applicant”), for financial assistance in the form of a conveyance/reconveyance of title agreement (the “Agreement”) regarding tangible personal property for the design, manufacture, production or assembly of Advanced Transportation Technologies or Alternative Source products, components, or systems (“Qualified Property”) as more particularly described in the staff summary and in the Applicant’s Application to the Authority (collectively, the “Project”); and

WHEREAS, the Applicant has requested the Authority to enter into the Agreement transferring title of Project equipment with an estimated cost not to exceed \$13,400,000 over a period of five years; and

WHEREAS, the Agreement will provide that the Applicant will, prior to any use of the Qualified Property, transfer title at no cost to the Authority from time to time as purchases of Qualified Property are made and the Authority will then transfer title back to the Applicant without having taken possession of the Qualified Property; and

WHEREAS, the Applicant believes that this form of financial assistance will enable it to avail itself of the benefits of an exclusion from sales and use taxes relative to the Qualified Property pursuant to California Revenue and Taxation Code Section 6010.8; and

WHEREAS, approval of the terms of the Agreement and authority for the Executive Director, Deputy Executive Director, or Chair of the Authority, to execute the necessary documents to effectuate the Agreement is now sought;

NOW, THEREFORE, BE IT RESOLVED by the California Alternative Energy and Advanced Transportation Financing Authority, as follows:

Section 1. The Project constitutes a “project” within the meaning of Public Resources Code Section 26003(g)(2).

Section 2. The requested conveyance agreement constitutes “financial assistance” within the meaning of Public Resources Code Section 26003(e)(2).

Section 3. The Applicant is a “participating party” within the meaning of Public Resources Code Section 26003(f).

Agenda Item – 4.B.12
Resolution No. 10-SM028
Application No. 10-SM028

Section 4. The Executive Director, Deputy Executive Director, or Chair of the Authority (the “Authorized Signatories”) are hereby authorized for and on behalf of the Authority to approve any changes to the Project as the Executive Director shall deem appropriate, provided that the amount of the Qualified Property to be purchased may not be increased above the amount approved by the Authority.

Section 5. The proposed form of the Agreement between the Applicant and the Authority, as filed with the Authority prior to this meeting, is hereby approved. The Authorized Signatories are hereby authorized and directed, for and on behalf and in the name of the Authority, to execute, acknowledge and deliver to the Applicant the Agreement in substantially the form filed with or approved by the Authority, with such insertions, deletions or changes therein as the Authorized Signatory executing the same, may require or approve, and with particular information inserted therein in substantial conformance with the staff summary and in the Applicant’s Application to the Authority, such approval to be conclusively evidenced by the execution and delivery thereof. The Authority understands and agrees that pursuant to the terms of the Agreement, the obligations of the Applicant may, under some circumstances be carried out or assumed by a successor or assignee entity, or by an affiliate of the Applicant.

Section 6. Each of the Authorized Signatories, acting alone, is hereby authorized and directed to do any and all ministerial acts, including (without limitation) the execution and delivery of any and all documents and certificates they may deem necessary or advisable in order to consummate the Agreement and otherwise effectuate the purposes of this resolution.

Section 7. The Applicant shall assure CAEATFA that all Qualified Property conveyance pursuant to the Agreement shall be installed, maintained and operated in compliance with all applicable local, state and federal laws.

Section 8. The Agreement shall only apply to Qualified Property that the Applicant certifies will be installed, maintained and operated at facilities within the State of California.

Section 9. The adoption by the Authority of this Resolution for the Applicant shall not be referred to in any application before any governmental agency as evidence of the feasibility, practicality or suitability of the Project or in any application for any required permission or authority to acquire, construct or operate the Project.

Section 10. This Resolution is effective immediately and will remain in full force and effect unless the Regulatory Agreement, as defined in CAEATFA Regulations Section 10035(A), is not executed within thirty (30) days of the date of this Resolution. The Executive Director may extend the thirty days if necessary.

ATTACHMENT A

CALTECH BOARD OF TRUSTEES

Mr. Robert C. Bonner – Senior Partner, Sentinel HS Group, LLC

Ms. Brigitte M. Bren, Esq. – President and Chief Executive Officer, International Strategic Planning

Mr. John E. Bryson – Chairman and Chief Executive Officer, Retired Edison International

Dr. Jean-Lou Chameau – President, California Institute of Technology

Dr. Milton M. Chang – Managing Director, Incubic Venture Capital

Mr. John S. Chen – Chairman, Chief Executive Officer and President, Sybase, Inc.

Mr. Robert B. Chess – Chairman, Nektar Therapeutics

Dr. Lounette M. Dyer – Entrepreneur

Mr. Gilad I. Elbaz – Founder, Factual, Inc.

Mr. William T. Gross – Chairman and Founder, Idealab

Dr. Narendra K. Gupta – Co-Founder, Nexus Venture Partners

Mr. Frederick J. Hameetman – Chairman, Cal-American

Mr. Robert T. Jenkins

Mr. Peter D. Kaufman – Chairman and Chief Executive Officer, Glenair, Inc.

Dr. Jon Faiz Kayyem – Managing Partner, Osmetech PLC

Ms. Louise Kirkbride – Board Member, State of California Contractors State License Board

Mr. Kent Kresa – Chairman Emeritus, Northrop Grumman Corporation

Mr. Jon B. Kutler – Chairman and Chief Executive Officer, Admiralty Partners, Inc.

Mr. Louis J. Lavigne, Jr. – Management Consultant, Lavigne Groupe

Dr. David Li Lee – Managing General Partner, Clarity Partners, L.P.

Dr. York Liao – Managing Director, Winbridge Company Ltd.

Dr. Alexander Lidow – Chief Executive Officer, EPC Corporation

Dr. Ronald K. Linde – Independent Investor and Chair, The Ronald and Maxine Linde Foundation; Founder and Former CEO, Envirodyne Industries, Inc.

Dr. Shirley M. Malcom – Director, Education and Human Resources Programs, American Association for the Advancement of Science

ATTACHMENT A (Continued)

Ms. Deborah D. McWhinney – President, Citi Personal Wealth Management, Citigroup, Inc.

Richard Merkin, M.D. – Founder and Chief Executive Officer, Heritage Provider Network

Mr. Elon R. Musk – CEO and CTO, SpaceX

Dr. Philip M. Neches – Chairman, Foundation Ventures LLC

Dr. Patrick H. Nettles, Jr. – Executive Chairman, Ciena Corporation

Mr. Peter Norton – President, Norton Family Office

Mr. Ronald L. Olson – Senior Partner, Munger, Tolles & Olson

Mr. Stephen R. Onderdonk – President & CEO (Retired), Econolite Control Products, Inc.

Dr. Pedro J. Pizarro – Executive Vice President, Power Operations, Southern California Edison

Dr. Sally Kristen Ride – President and Chief Executive Officer, Sally Ride Science

Mr. Nelson C. Rising – Chief Executive Officer, Maguire Properties

Dr. Stephen A. Ross – Franco Modigliani Professor of Finance and Economics, Massachusetts Institute of Technology; Chairman, Compensation Valuation, Inc.

Mr. James F. Rothenberg – Chairman and Principal Executive Officer, Capital Research and Management Company

Mr. Marc I. Stern – Vice Chairman and Interim CEO, The TCW Group, Inc.

Mr. Donald W. Tang – Chief Executive Officer, CSIP Group

Mr. Charles R. Trimble – Arbor Vita Corporation

Mr. Lewis W. van Amerongen – LvA Enterprises Incorporated

Mrs. Gayle E. Wilson – Non-profit Consultant

Mr. Jay S. Wintrob – President and Chief Executive Officer, AIG Domestic Life and Retirement Services, Inc.

Dr. Suzanne H. Woolsey - Corporate Governance Consultant