

CALIFORNIA ENERGY COMMISSION

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www.energy.ca.gov

**NOTICE OF PROPOSED AWARD (NOPA)****Distribution System Modeling Tools to Evaluate Distributed Energy Resources
GFO-17-305
February 2, 2018**

On September 28, 2017, the California Energy Commission (Energy Commission) released a competitive solicitation to fund Distribution System Modeling Tools to Evaluate Distributed Energy Resources. Up to \$9,073,750 in Electric Program Investment Program funding is available to fund applications in:

- Group 1: Microgrid Valuation and Optimization Tool
- Group 2: Open Source Modeling Framework and Translation Tool
- Group 3: Enabling High Performance Computing in Open Source Grid Modeling
- Group 4: Open-Source User Interface for Gridlab-D

This NOPA covers Groups 1, 2, 3, and 4. The Energy Commission received 29 proposals by the due date of December 1, 2017. Each passing proposal was screened, reviewed, evaluated, and scored using the criteria in the solicitation. Twenty eight proposals passed the Stage One Application Screening.

The attached "Notice of Proposed Awards" identifies each applicant selected and recommended for funding by Energy Commission staff and includes the recommended funding amount and score. The total amount recommended is \$9,068,480.

Funding of proposed projects resulting from this solicitation is contingent upon the approval of these projects at a publicly noticed Energy Commission Business Meeting and execution of a grant agreement. If the Energy Commission is unable to timely negotiate and execute a funding agreement with an Applicant, the Energy Commission, at its sole discretion, reserves the right to cancel or otherwise modify the pending award, and award the funds to another applicant.

In addition, the Energy Commission reserves the right to: 1) add to, remove, or shift funding between the different groups if there are insufficient passing proposals in one group, and 2) negotiate with successful applicants to modify the project scope, schedule, and/or level of funding.

This notice is being mailed to all parties who submitted an application to this solicitation and is also posted on the Energy Commission's website at www.energy.ca.gov/contracts/.

For information, please contact Michael Poe at (916) 654-4809 or Michael.Poe@energy.ca.gov.

Michael Poe
Commission Agreement Officer



California Energy Commission GFO-17-305

Distribution System Modeling Tools to Evaluate Distributed Energy Resources

Project Group 1 – Microgrid Valuation and Optimization Tool

Notice of Proposed Award

February 2, 2018

Rank Number	Project Applicant	Title	Energy Commission Funds Requested	Energy Commission Funds Recommended	Match Funds	Score	Award Status
Proposed Awards							
1	EPRI	Validated, Transparent, and Accessible Microgrid Valuation and Optimization Tool	\$2,000,000	\$2,000,000	\$568,110	91.40	Awardee
Total Funding Recommended			\$2,000,000	\$2,000,000	\$568,110		
Passed but Not Funded							
2	Clean Coalition	Microgrid, Valuation, Optimization, and Location Tool (M-VOLT)	\$2,000,000	\$0	\$76,509	81.65	Finalist
3	LBNL	Microgrid CODE: Combined Optimal Design and Evaluation - A novel approach assessing microgrid deployment in California	\$1,948,000	\$0	\$173,380	78.20	Finalist
Total			\$3,948,000	\$0	\$249,889		
Did Not Pass							
	GEIRINA	Integrated Microgrid Optimization and Assessment Platform (iMOAP)	\$1,978,598	\$0	\$1,156,800		Did Not Pass
	EDF Inc.	Microgrid Evaluation, Review and Investment Tool (MERIT)	\$2,000,000	\$0	\$340,000		Did Not Pass
	Opus One Solutions Corporation	IDP-MicroGrid Valuations & Optimization	\$751,980	\$0	\$0		Did Not Pass
	The Energy Coalition	Project Microgrid: Bundled Resource Energy Workflow Tool (MicroBREW)	\$1,592,369	\$0	\$448,710		Did Not Pass
	Abraxas Energy Consulting LLC	Next Generation, Open-Source Distribution System Modeling Platform for the Evaluation of Distributed Energy Resources	\$1,705,074	\$0	\$250,000		Did Not Pass
	Regents of the University of California (UC Davis)	Microgrid Valuation and Optimization Tool for Power-load-leveling for Machine Tools	\$528,577	\$0	\$91,519		Did Not Pass
	HOMER Energy, LLC	HOMER CALc Microgrid Economic Optimization Tool	\$1,778,420	\$0	\$535,200		Did Not Pass
Total			\$10,335,018	\$0	\$2,822,229		
Disqualified							
	CleanSpark	MicrogridVSO (Microgrid Value Stream Optimizer)	\$1,936,349	\$0	\$210,770		Disqualified
Total			\$1,936,349	\$0	\$210,770		
Grand Total			\$18,219,367	\$2,000,000	\$3,850,998		



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Project Group 2 – Open Source Modeling Framework and Translation Tool

Notice of Proposed Award

February 2, 2018

Rank Number	Project Applicant	Title	Energy Commission Funds Requested	Energy Commission Funds Recommended	Match Funds	Score	Award Status
Proposed Awards							
1	SLAC	OpenFIDO: Open-source Framework for Integrated Data Operations	\$1,000,000	\$1,000,000	\$30,000	83.80	Awardee
Total Funding Recommended			\$1,000,000	\$1,000,000	\$30,000		
Passed but Not Funded							
2	PNNL	Open Source Distribution System Model Translation	\$131,387	\$0	\$156,000	79.65	Finalist
Total			\$131,387	\$0	\$156,000		
Did Not Pass							
	EPRI	CIM-Based Network Analysis Data Translation Tool	\$998,000	\$0	\$211,233		Did Not Pass
	GridBright	DITTO: An Open-Source Modeling Framework and Translation Tool	\$899,323	\$0	\$32,596		Did Not Pass
Total			\$1,897,323	\$0	\$243,829		
Grand Total			\$3,028,710	\$1,000,000	\$429,829		



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Distribution System Modeling Tools to Evaluate Distributed Energy Resources

Project Group 3 – Enabling High Performance Computing in Open Source Grid Modeling

Notice of Proposed Award

February 2, 2018

Rank Number	Project Applicant	Title	Energy Commission Funds Requested	Energy Commission Funds Recommended	Match Funds	Score	Award Status
Proposed Awards							
1	SLAC	HiPAS GridLAB-D: High-performance Agent-based Simulation using GridLAB-D	\$3,068,781	\$3,068,781	\$300,000	89.85	Awardee
Total Funding Recommended			\$3,068,781	\$3,068,781	\$300,000		
Passed but Not Funded							
2	EPRI	Maximizing Open Source Tools to Enable Enhanced Integration Capacity Analysis	\$3,070,058	\$0	\$1,860,231	83.25	Finalist
3	The Regents of the UC, Riverside	High-Performance Co-Simulation of Power Distribution and Communications Network (Co-DiCo) with Dynamic DER Representation and Data-Driven Model Integration	\$3,050,078		\$735,646	82.95	Finalist
Total			\$6,120,136	\$0	\$2,595,877		
Did Not Pass							
	GridUnity Inc.	GridUnity High Performance Computing Enabling Advanced Open Source Grid Modeling	\$3,073,750	\$0	\$260,000		Did Not Pass
	UC Riverside	Enabling Distributed Energy Resources Integration with High-Performance Distribution System Simulator (HP-DSS)	\$3,073,750	\$0	\$613,753		Did Not Pass
	Lawrence Livermore National Security, LLC	hpc4GLD: Coupling GridLab-D with Low-cost HPC for Integration Capacity Analysis	\$1,500,000	\$0	\$0		Did Not Pass
	LBNL	ExaDER: A High-Performance Computing Grid Modeling Platform for DER Planning	\$3,073,750	\$0	\$288,325		Did Not Pass
	Abraxas Energy Consulting, LLC	Modeling Platform for the Evaluation of Distributed Energy Resources	\$2,958,182	\$0	\$0		Did Not Pass
	USC	Scalable Auto-Tuning Parallelization of Distributed Network Simulation	\$2,732,032	\$0	\$318,166		Did Not Pass
Total			\$16,411,464	\$0	\$1,480,244		
Grand Total			\$25,600,381	\$3,068,781	\$4,376,121		



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Distribution System Modeling Tools to Evaluate Distributed Energy Resources

Project Group 4 – Open-Source User Interface for Gridlab-D

Notice of Proposed Awards

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Rank Number	Project Applicant	Title	Energy Commission Funds Requested	Energy Commission Funds Recommended	Match Funds	Score	Award Status
Proposed Awards							
1	Hitachi America LTD	GLOW: GridLAB-D Open Workspace	\$2,999,699	\$2,999,699	\$1,255,060	89.95	Awardee
Total Funding Recommended			\$2,999,699	\$2,999,699	\$1,255,060		
Passed but Not Funded							
2	GEIRINA	Distribution System Modeling Tools to Evaluate Distributed Energy Resources	\$2,588,700	\$0	\$2,060,902	83.00	Finalist
3	XENDEE	GridLab-D Enhancements	\$2,995,941	\$0	\$188,980	77.40	Finalist
Total			\$5,584,641	\$0	\$2,249,882		
Did Not Pass							
	ProsumerGrid, Inc.	Graphical User Interface for GridLAB-D through Open Modeling Framework (OMF) Project	\$3,000,000	\$0	\$200,000		Did Not Pass
	Cal State L.A. University Auxiliary Services, Inc.	Open-Source Desktop Environment/User Interface for Gridlab-D	\$2,979,458	\$0	\$71,186		Did Not Pass
Total			\$5,979,458	\$0	\$271,186		
Grand Total			\$14,563,798	\$2,999,699	\$3,776,128		