

CONTRACT REQUEST FORM (CRF)



A) New Agreement _____ (To be completed by CGL Office)

B) Division	Agreement Manager:	MS-	Phone
800 Electricity Supply Analysis Division	Katherine Anderson	20	916-654-4882

C) Contractor's Legal Name	Federal ID Number
Dr. Kenneth B. Medlock III, PhD	45-1774335

D) Title of Project
Natural Gas Modeling for IEPR, Trends and Outlook Reports

E) Term and Amount	Start Date	End Date	Amount
	02 / 08 / 2014	03 / 31 / 2016	\$ 100,000

F) Business Meeting Information

Operational agreement (see CAM Manual for list) to be approved by Executive Director

ARFVTP agreements under \$75K delegated to Executive Director.

Proposed Business Meeting Date	01 / 08 / 2014	<input type="checkbox"/> Consent	<input checked="" type="checkbox"/> Discussion
Business Meeting Presenter	Linda Spiegel	Time Needed:	5 minutes

Please select one list serve. NaturalGas (NG Research Program)

Agenda Item Subject and Description

Possible approval of Agreement 800-13-002 with Dr. Ken Medlock III, PhD for a \$100,000 contract to modify the Baker Institute Energy Forum's natural gas assessment model to complement the Energy Commission staff's natural gas work for the 2015 Integrated Energy Policy Report (IEPR) cycle.

G) California Environmental Quality Act (CEQA) Compliance

1. Is Agreement considered a "Project" under CEQA?

Yes (skip to question 2) No (complete the following (PRC 21065 and 14 CCR 15378)):

Explain why Agreement is not considered a "Project":

Agreement will not cause direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment because it entails modeling natural gas scenarios.

2. If Agreement is considered a "Project" under CEQA:

a) Agreement **IS** exempt. (Attach draft NOE)

Statutory Exemption. List PRC and/or CCR section number: _____

Categorical Exemption. List CCR section number: _____

Common Sense Exemption. 14 CCR 15061 (b) (3)

Explain reason why Agreement is exempt under the above section: _____

b) Agreement **IS NOT** exempt. (Consult with the legal office to determine next steps.)

Check all that apply

<input type="checkbox"/> Initial Study	<input type="checkbox"/> Environmental Impact Report
<input type="checkbox"/> Negative Declaration	<input type="checkbox"/> Statement of Overriding Considerations
<input type="checkbox"/> Mitigated Negative Declaration	

H) List all subcontractors (major and minor) and equipment vendors: (attach additional sheets as necessary)

Legal Company Name:	Budget	SB	MB	DVBE
NA	\$ 0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	\$ 0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	\$ 0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I) List all key partners: (attach additional sheets as necessary)

Legal Company Name:
NA

**J) Budget Information**

Funding Source	Funding Year of Appropriation	Budget List No.	Amount
State - ERPA	13-14	800.012	\$100,000
Funding Source			\$
R&D Program Area: <input type="text"/> Select Program Area		TOTAL:	\$100,000
Explanation for "Other" selection			
Reimbursement Contract #:		Federal Agreement #:	

K) Contractor's Administrator/ Officer

Contractor's Administrator/ Officer				Contractor's Project Manager			
Name:	Kenneth B. Medlock III, PhD			Name:	Kenneth B. Medlock III, PhD		
Address:	Baker Institute at Rice University 6100 Main Street, Economics Dept, MS 22			Address:	Baker Institute at Rice University 6100 Main Street, Economics Dept, MS 22		
City, State, Zip:	Houston, Texas 77005-1892			City, State, Zip:	Houston, Texas 77005-1892		
Phone:	713-348-3757	Fax:	- -	Phone:	713-348-3757	Fax:	- -
E-Mail:	medlock@rice.edu			E-Mail:	medlock@rice.edu		

L) Selection Process Used (For amendments, address amendment exemption or NCB, do not identify solicitation type of original agreement.)

Solicitation Select Type Solicitation #: - - # of Bids: Low Bid? No Yes
 Non Competitive Bid (Attach CEC 96)
 Exempt Select Exemption (see instructions)

M) Contractor Entity Type

Private Company (including non-profits)
 CA State Agency (including UC and CSU)
 Government Entity (i.e. city, county, federal government, air/water/school district, joint power authorities, university from another state)

N) Is Contractor a certified Small Business (SB), Micro Business (MB) or DVBE?

No Yes
 If yes, check appropriate box: SB MB DVBE

O) Civil Service Considerations

Not Applicable (Agreement is with a CA State Entity or a membership/co-sponsorship)
 Public Resources Code 25620, et seq., authorizes the Commission to contract for the subject work. (PIER)
 The Services Contracted:
 are not available within civil service
 cannot be performed satisfactorily by civil service employees
 are of such a highly specialized or technical nature that the expert knowledge, expertise, and ability are not available through the civil service system.
 The Services are of such an:
 urgent
 temporary, or
 occasional nature
 that the delay to implement under civil service would frustrate their very purpose.

Justification:

Dr. Kenneth B. Medlock III is the only contractor with both the technical knowledge and necessary legal access to the Baker Institute's proprietary product - the NG model. Thus, no other contractor can be considered.

P) Payment Method

A. Reimbursement in arrears based on:
 Itemized Monthly Itemized Quarterly Flat Rate One-time
 B. Advanced Payment
 C. Other, explain:

Q) Retention

1. Is Agreement subject to retention? No Yes
 If Yes, Will retention be released prior to Agreement termination? No Yes



R) Justification of Rates

The Contractor's hourly rate of \$300 is comparable to that of other contractors doing similar work. For example, an existing technical support contract with Aspen Env Group, which was competitively bid, has hourly rates of \$175 to \$400/hr

S) Disabled Veteran Business Enterprise Program (DVBE)

1. Exempt (Interagency/Other Government Entity)
2. Meets DVBE Requirements DVBE Amount:\$ 0 DVBE %: _____
 Contractor is Certified DVBE
 Contractor is Subcontracting with a DVBE: _____
3. Contractor selected through CMAS or MSA with no DVBE participation.
4. Requesting DVBE Exemption (attach CEC 95)

T) Miscellaneous Agreement Information

1. Will there be Work Authorizations? No Yes
2. Is the Contractor providing confidential information? No Yes
3. Is the contractor going to purchase equipment? No Yes
4. Check frequency of progress reports
 Monthly Quarterly Other...
5. Will a final report be required? No Yes
6. Is the Agreement, with amendments, longer than a year? If yes, why? No Yes
 The analysis being performed needs to consider modeling data over a two year period.

U) The following items should be attached to this CRF (as applicable)

- | | | |
|---|---|--|
| 1. Exhibit A, Scope of Work | <input type="checkbox"/> N/A | <input checked="" type="checkbox"/> Attached |
| 2. Exhibit B, Budget Detail | <input type="checkbox"/> N/A | <input checked="" type="checkbox"/> Attached |
| 3. CEC 96, NCB Request | <input type="checkbox"/> N/A | <input checked="" type="checkbox"/> Attached |
| 4. CEC 30, Survey of Prior Work | <input checked="" type="checkbox"/> N/A | <input type="checkbox"/> Attached |
| 5. CEC 95, DVBE Exemption Request | <input type="checkbox"/> N/A | <input checked="" type="checkbox"/> Attached |
| 6. CEQA Documentation | <input checked="" type="checkbox"/> N/A | <input type="checkbox"/> Attached |
| 7. Resumes | <input checked="" type="checkbox"/> N/A | <input type="checkbox"/> Attached |
| 8. CEC 105, Questionnaire for Identifying Conflicts | | <input checked="" type="checkbox"/> Attached |

 Agreement Manager Date Office Manager Date Deputy Director Date

EXHIBIT A Scope of Work

PURPOSE

This Agreement is for the Contractor to provide technical support necessary for the California Energy Commission (Energy Commission) staff to perform work for the 2015 Integrated Energy Policy Report (IEPR) in the following areas:

- a. The assessment of the natural gas market (supply, demand, and price) through 2016; and
- b. Understanding and evaluating natural gas market metrics and uncertainties.

The Contractor shall modify and run the North American Market Gas-Trade (NAMGas) model as necessary for staff to gain information necessary to quantitatively evaluate potential scenarios of future natural gas markets, provide updates to model structure, scenarios and natural gas cost curves, collect and analyze data needed to run the model, and provide support to staff for running the model.

The Contractor shall complete the following:

Task 1: Collection, Processing and Analysis of Data

Under the direction of Energy Commission staff, the Contractor shall:

- a. Collect, analyze, and provide data necessary to run reference base case and modified scenarios of future natural gas market supply and demand cases.
- b. Assist staff with collection of data inputs including but, not limited to, natural gas demand data, natural gas resources data, Liquid Net Gas data, and pipeline data.
- c. Manipulate data as necessary for incorporation into the NAMGas model.
- d. Update the Demand Excel Spreadsheet Model.
- e. Provide structural (e.g., demand, infrastructure, and production plays) updates to the existing NAMGas model.
- f. Run and converge all cases designated by CEC staff.
- g. Provide guidance and/or information on emerging issues and trends in natural gas markets.

DELIVERABLES:

- Data necessary to run all supply and demand cases
- Updated Demand Excel Spreadsheet Model
- Confirmation that structural updates to NAMGas model completed

- Deliver all associated .mkp files to Energy Commission Staff.
- Provide guidance and/or information on emerging issues and trends in natural gas markets.

DUE DATES:

- Data, data manipulation, demand excel spreadsheet model, structural update of NAMGas – 1st Quarter 2014, 1st Quarter 2015
- .mkp files – 2nd Quarter 2014, 2nd Quarter 2015

Task 2: Develop Natural Gas Scenarios for the 2015 IEPR

The Contractor shall:

- Work with Energy Commission staff to develop various annual NETGas supply and demand scenarios. Provide metrics, assumptions and justification for each scenario.
- Travel to Sacramento and participate in two public workshops on scenarios, metrics, assumptions and justification for the 2015 IEPR.

DELIVERABLES:

- Metrics, assumptions and justification for each NG supply and demand scenario. – 1st and 2nd quarter 2015
- Two workshops – 2nd and 3rd quarter 2015

DUE DATES:

- 2nd Quarter 2015

Task 3: Modify the NAMGas Model

The Contractor shall:

- Modify the NAMGas model to meet specific requirements of the Energy Commission. These modifications include:
 - The conversion of the annual NAMGas model into a monthly model
 - The development of the data necessary to run the monthly model
 - The inclusion of any necessary structural changes needed for proper model representations, particular changes specific to California and the Western Electricity Coordinating Council (WECC).
- Run and converge specific monthly model cases and detail assumptions and inputs of model runs.
- Respond to, and make appropriate model adjustments from any policy, regulatory, economic, demographic, infrastructure, climate change, technology or other significant developments that could affect NAMGas supply, demand, or markets.

DELIVERABLES:

- Deliver all associated .mkp files to Energy Commission Staff as cases are completed.

DUE DATES:

- 3rd Quarter 2014

Task 4: Staff Training

The Contractor shall:

- a. Travel to Sacramento and conduct annual 2-3 day training on the NAMGas/Marketbuilder and monthly and annual scenario models to Energy Commission staff. Training will include use, functionality, data processing, and analysis of model runs and outputs.
- b. Assist staff with any staff-conducted model runs and review these model run outputs for accuracy, completeness, and correctness on an on-going basis.

DELIVERABLES:

- Manual of model structure, functionality, types of inputs and data manipulations, algorithms, and outputs.
- Annual training sessions.
- Review and provide written comments of staff model-run outputs.

DUE DATES:

- Manual of model structure, functionality, types of inputs and data manipulations, algorithms, and outputs – 2nd quarter 2015
- Annual training sessions – 1st quarter 2014, 1st quarter 2015
- Review and provide written comments of staff model-run outputs – 2nd and 3rd quarter 2015

Task 5: Technology and Information Transfer

The Contractor shall:

- a. Present and defend assumptions, inputs and results during Energy Commission sponsored workshops, IEPR hearings, and Commissioner briefings.
- b. Assist staff in developing draft and final written reports describing model structure, assumptions, inputs and results as guided by staff provided report formats.
- c. Respond in writing and/or additional model runs files to stakeholder concerns with model assumptions, inputs and results deemed significant by Energy Commission staff.

DELIVERABLES:

- Presentations at workshops, hearings and briefings in person or by phone or WebEx.
- Comment on result of model runs, as well as on draft and final written reports.

DUE DATES:

- Workshops, hearings and briefings – 1st, 2nd, and 3rd quarter 2015
- Comment on result of model runs, as well as on draft and final written reports.-- 1st, 2nd, and 3rd quarter 2015

Task 6: Expert Consultation

The Contractor shall:

- a. Serve as an expert consultant to Energy Commission staff on all matters related to the NAMGas model and Marketbuilder platform including but not limited to assumptions, market factors, inputs, data manipulation, outputs, and stakeholder concerns.

DELIVERABLES:

- On-going support as needed and conducted by email, phone, and WebEx meetings.

DUE DATES:

- On-going support during term of contract.

Task Number	Deliverables	Due Dates
Schedule of Products and Deliverables		
Task 1: Collection, Processing, and Analysis of Data		
Task 1	Data necessary to run all supply and demand cases	1st quarter 2014, 1st quarter 2015
Task 1	Updated demand excel spreadsheet model	1st quarter 2014, 1st quarter 2015
Task 1	Confirmation that structural updates to NAMGas model completed	1st quarter 2014, 1st quarter 2015
Task 1	Deliver all associated .mkp files to Energy Commission Staff	2nd quarter 2014, 2nd quarter 2015
Task 1	Provide guidance and/or information on emerging issues and trends in natural gas markets	1st quarter 2014, 1st quarter 2015
Task 2: Develop Natural Gas Scenarios for the 2015 IEPR		
Task 2	Metrics, assumptions, and justification for each NG supply and demand scenario	1st and 2nd quarter 2015
Task 2	Two workshops	2nd and 3rd quarter 2015
Task 3: Modify the NAMGas Model		
Task 3	Deliver all associated .mkp files to Energy Commission Staff	3rd quarter 2014
Task 4: Staff Training		
Task 4	Manual of model structure, functionality, types of inputs and data manipulations, algorithms, and outputs	2nd quarter 2015
Task 4	Annual training sessions	1st quarter 2014, 1st quarter 2015
Task 4	Review and provide written comments of staff model-run outputs	2nd and 3rd quarter 2015
Task 5: Technology and Information Transfer		
Task 5	Presentations at workshops, hearings, and briefings in person or by phone or WebEx	1st, 2nd, and 3rd quarter 2015
Task 5	Comment on result of model runs, as well as on draft and final written reports	1st, 2nd, and 3rd quarter 2015
Task 6: Expert Consultation		
Task 6	On-going support as needed and conducted by email, phone, and WebEx meetings	On-going support

STATE OF CALIFORNIA

STATE ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION

RESOLUTION - RE: KENNETH B. MEDLOCK III

RESOLVED, that the State Energy Resources Conservation and Development Commission (Energy Commission) approves Agreement 800-13-002 with **Kenneth B. Medlock III, PhD**, for a **\$100,000** contract to modify the Baker Institute Energy Forum's natural gas assessment model to complement the Energy Commission staff's natural gas work for the 2015 Integrated Energy Policy Report (IEPR) cycle.

FURTHER BE IT RESOLVED, that this document authorizes the Executive Director to execute the same on behalf of the Energy Commission.

CERTIFICATION

The undersigned Secretariat to the Commission does hereby certify that the foregoing is a full, true, and correct copy of a Resolution duly and regularly adopted at a meeting of the California Energy Commission held on January 15, 2014.

AYE: [List of Commissioners]

NAY: [List of Commissioners]

ABSENT: [List of Commissioners]

ABSTAIN: [List of Commissioners]

Harriet Kallemeyn,
Secretariat