EPA

United States Environmental Protection Agency
Washington, DC 20460

Work Assignment

Work Assignment Number: 2-07

☐ Other ☐ Amendment Number:

Contract Number	Contract Period	Title of Work Assignment/SF Site Name
EP-D-11-006	04/29/2011 To 03/28/2013 Base Option Period Number 1	Characterization of Emissions

Contractor: EASTERN RESEARCH GROUP, INC.

Specify Section and paragraph of Contract SOW: I and K

Purpose:
- [X] Work Assignment
- [ ] Work Assignment Amendment
- [ ] Work Plan Approval
- [ ] Work Assignment Close-Out
- [ ] Incremental Funding

Period of Performance: From 06/15/2012 To 03/28/2013

Comments:
This work assignment includes 500 hours for preparation of the work plan and to begin work on the work assignment. To the best of my knowledge, this work does not duplicate any work previously performed or currently being performed by this office.

☐ Superfund — Accounting and Appropriations Data — [X] Non-Superfund

Note: To report additional accounting and appropriations date use EPA Form 1900-69A.

SFO (*Max 2*) ☐

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										

Authorized Work Assignment Ceiling

	Cost/Fee:	LOE:
Contract Period: 04/29/2011 To 03/28/2013		0
This Action:		500
Total:		500

Work Plan / Cost Estimate Approvals

	Cost/Fee:	LOE:
Contractor WP Dated:		
Cumulative Approved:		

Work Assignment Manager Name Susan Thorneloe	(Signature)	(Date)	Branch/Mail Code: Phone Number 919-541-2709 FAX Number:
Project Officer Name Margaret Dougherty	(Signature)	(Date)	Branch/Mail Code: Phone Number: 919-541-2344 FAX Number:
Other Agency Official Name	(Signature)	(Date)	Branch/Mail Code: Phone Number: FAX Number:
Contracting Official Name Rodney-Daryl Jones	(Signature)	(Date)	Branch/Mail Code: Phone Number: 919-541-3112 FAX Number:

Statement of Work

I. Title: Characterization of Emissions from Cookstoves and Waste
Contractor Name: ERG
Contract #: EP-D-11-006
WA #: 2-07
Work Assignment Manager (WAM):
Susan Thorneloe
U.S. Environmental Protection Agency
ORD/NRMRL
APPCD (E343-02)
RTP, NC 27711
Phone: (919) 541-2709

II. Background:
Cookstoves are used in the majority of the world's households for cooking, heat, and light. Emissions have been characterized for a wide range of stoves and fuels. Additional work is ongoing to look at stoves that have fewer emissions of concern including carbon black. This work assignment is to provide easier access to the data and information resulting from ongoing studies here in the U.S. and across the globe. In addition, this work assignment will complete work that charcterizes emissions from muncipal and incident waste management where tools are available for providing easier access to information needed by decision makers.

III. Description and Tasks:

Task #1: Work Plan
The Contractor shall develop a new work plan. The Contractor shall hold conference calls with the WAM on at least a biweekly basis after approval of the work plan to plan and review progress of this WA. The Contractor shall provide monthly summaries of the work progress, financial information on how resources have been spent, and updated schedule of product deliverables

Task #2: Cookstoves
The Contractor shall provide mock ups of potential screens for a decision support tool providing access to data and information on emissions from a wide range of stove and fuel types. The Contractor shall review existing data for inclusion into the tool and develop a repository for new data to be included as more advanced stoves are tested minimizing emissions criteria pollutants, carbon, and hazardous air pollutants. The Contractor shall arrange a series of meetings with potential stakeholders to discuss needs for a decision support tool, user group, functionalities, and outputs. The mock ups will help to reach agreement on the objectives and look of the tool for use in the global community. This is a major priority to the State Department and would help reduce health issues for children and provide access to decision makers on the types of stoves to recommend for specific countries and infrastructure. The Contractors shall make changes to the mock-ups and work towards building a prototype of a decision support tool for cookstoves.

Task #3: Incident Waste
The Contractor shall make revisions to a decision support tool providing emissions and other information that was developed and released under Contract EP-C-07-015, work assignment 4-2. The Contractor shall make changes in response to comments provided by the EPA WAM resulting from comments received from peer review and from users of the tool. This work will be to update the facility data bases, ensure that all links are executable, and updates to documents referenced within the tool. The Contractor shall track comments received from users of the tool to help characterize any issues and to track the application type, geographical region, and other information to help determine the potential impacts resulting from the deployment of the Incident Waste Decision Support Tool (I-Waste).

As part of I-Waste, the Contractor shall develop a first order approximation of the amount of waste generated by a hypothetical Radiological Dispersal Device released in an urban area, and document the methodology used to develop this estimate. The Contractor shall include the following features into the existing analysis in the tool including:

(a) Cost considerations (e.g., disposal, transportation, demolition, decontamination). This cost analysis shall allow sensitivity analysis to be performed to aid in the identification of optimal remediation strategies such as determine cost as a function of cleanup goal,

(b) Enhancing the tool to address data gaps and sourcing of default parameter values to have better default data and identify where gaps in default data lie and to include personal items from residences and hospitals and also to include building contents;

(c) Allowing additional integration between the database and the spreadsheet to permit demolition and decontamination of selected structural types;

(d) Simplifying changing of the study areas in two ways: by applying new GIS shape files and recalculating, and by performing a simple arithmetic ratio of study area square footage to allow recalculations based on minor changes without requiring additional GIS manipulations.

Task #4: Data Gap Analysis and LeachXS-Lite
The Contractor shall revise a draft report that provide a data gap analysis characterizing emissions from the disposal or use of coal combustion residues. The report was developed under Contract EP-C-07-015, work assignment 4-2. The report shall be revised based on comments from EPA WAM resulting from peer, QA, and administrative review.

The Contractor shall also develop tutorials for use of LeachXS-Lite helping to provide easier access to emissions data to characterize the potential environmental impacts from the use and disposal of coal combustion residues. The Contractor shall make changes to the tutorials based on comments from the EPA WAM.

IV. QA Requirements:

The Contactor shall develop quality assurance documentation as required in Appendix #1 to this Statement of Work. Work involving environmental data shall not commence until the quality assurance documentation has received official approval from the EPA Quality Assurance Staff. If an existing Quality Assurance Project Plan (Q-TRAK # 10051/15284/01068) exists, then the Contractor shall review it and make updates as needed prior to commencing work.

V. Deliverables:

The Contractor shall adhere to the following schedule:

Task	Deliverable	Delivery Schedule
1	Work Plan	20 days after effective date of WA
2	Deliverable	Ongoing work until the end of the performance period (3/31/13)
3	Deliverable	Ongoing work until the end of the performance period (3/31/13)
4	Deliverable	Revisions within 30 days of the receipt of EPA comments

VI. Reporting Requirements:

The Contractor shall provide monthly progress reports in accordance with the terms of the contract. The Contractor shall submit work products in electronic as well as hard copy form. In addition, the Contractor shall deliver to the WAM each draft and final report in electronic format that is readable by windows-based word-processing (Microsoft Word 2003), graphics (Microsoft PowerPoint 2003), spreadsheet (Excel 2003), and database (Access 2003) programs. The Contractor shall also provide electronic copies of reports in PDF format.

ATTACHMENT #1 TO THE STATEMENT OF WORK (SOW) FOR SECONDARY DATA PROJECTS

NRMRL Quality Assurance (QA) Requirements

Title: Characterization of Emissions from Cookstoves and Waste
Contractor Name: ERG
Contract #: EP-D-11-006
WA #: 2-07

In accordance with EPA Order 5360.1 A2, conformance to ANSI/ASQC E4 must be demonstrated by submitting the quality documentation specified herein. All quality documentation shall be submitted to the Government for review. The Government will review and return the quality documentation, with comments, and indicate approval or disapproval. If the quality documentation is not approved, it must be revised to address all comments and shall be resubmitted to the Government for approval. Work involving environmental data collection, generation, use, or reporting shall not commence until the Government has approved the quality documentation. The quality documentation shall be submitted to the Government at least thirty (30) days prior to the beginning of any environmental data gathering or generation activity in order to allow sufficient time for review and revisions to be completed. After the Government has approved the quality documentation, the Contractor shall also implement it as written and approved by the Government. Any EPA-funded project/program may be subject to a QA audit.

TO BE SUBMITTED PRE-AWARD (mark all that apply):

□ **NRMRL's Quality System Specifications:**

(1) a description of the organization's Quality System (QS) and information regarding how this QS is documented, communicated and implemented;
(2) an organizational chart showing the position of the QA function;
(3) delineation of the authority and responsibilities of the QA function;
(4) the background and experience of the QA personnel who will be assigned to the project; and
(5) the organization's general approach for accomplishing the QA specifications in the SOW.

□ **Quality Management Plan:** prepared in accordance with R-2 - EPA Requirements for Quality Management Plans (EPA/240/B-01/002) March, 2001, http://www.epa.gov/quality/qs-docs/r2-final.pdf

TO BE SUBMITTED POST-AWARD (mark all that apply):

□ **NRMRL's Quality System Specifications:**

(1) a description of the organization's Quality System (QS) and information regarding how this QS is documented, communicated and implemented;
(2) an organizational chart showing the position of the QA function; 07/14/08 A-2
(3) delineation of the authority and responsibilities of the QA function;
(4) the background and experience of the QA personnel who will be assigned to the project; and
(5) the organization's general approach for accomplishing the QA specifications in the SOW.

□ **Quality Management Plan:** prepared in accordance with R-2 - EPA Requirements for Quality Management Plans (EPA/240/B-01/002) March, 2001, http://www.epa.gov/quality/qs-docs/r2-final.pdf

□ **Category I or II Quality Assurance Project Plan (QAPP):** prepared in accordance with R-5 - EPA Requirements for QA Project Plans (EPA/240/B-01/003) March, 2001 http://www.epa.gov/quality/qs-docs/r5-final.pdf

X **Category III or IV QAPP:** prepared in accordance with applicable sections of the following NRMRL QAPP Requirements List(s) which is(are) included in this attachment:

□ **QAPP Requirements for Measurement Projects**

X **QAPP Requirements for Secondary Data Projects**

□ **QAPP Requirements for Research Model Development and/or Application Projects**

□ **QAPP Requirements for Software Development Projects**

□ **QAPP Requirements for Method Development Projects**

□ **QAPP Requirements for Design, Construction, and/or Operation of Environmental Technology Projects**

ADDITIONAL QA RESOURCES:

EPA's Quality System Website: http://www.epa.gov/quality/
EPA's Requirements and Guidance Documents: http://www.epa.gov/quality/qa_docs.html

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NRMRL QAPP REQUIREMENTS FOR SECONDARY DATA PROJECTS

GENERAL REQUIREMENTS

Include cover page, distribution list, approvals, and page numbers.

0. COVER PAGE

Include the Division/Branch, project title, revision number, EPA technical lead, QA category, organization responsible for QAPP preparation, and date.

1. PROJECT DESCRIPTION AND OBJECTIVES

1.1 Describe the process and/or environmental system to be evaluated.
1.2 State the purpose of the project and list specific project objective(s).

2. ORGANIZATION AND RESPONSIBILITIES

2.1 Identify all project personnel, including QA, and related responsibilities for each participating organization, as well as their relationship to other project participants.
2.2 Include a project schedule that includes key milestones.

3. SCIENTIFIC APPROACH

3.1 Identify the secondary data needed to meet the project objective(s). Specify requirements relating to the type of data, the age of data, geographical representation, temporal representation, and technological representation, as applicable.

3.2 Identify the source(s) for the secondary data. Discuss the rationale for selecting the source(s) identified. If a hierarchy of sources exists for the gathering of secondary data, specify that hierarchy.

4. QUALITY METRICS

4.1 Specify the quality requirements of the secondary data. These requirements must be appropriate for the intended use of the data. Address accuracy, precision, representativeness, completeness, and comparability, if applicable.
4.2 Describe the procedures for determining the quality of the secondary data.
4.3 If no project-specific data quality requirements exist, state this in the QAPP. If the quality of the secondary data will not be evaluated by EPA, require that a disclaimer be added to any project deliverable to indicate that the quality of the secondary data has not been evaluated by EPA for this specific application. Provide the wording for the disclaimer.

5. DATA ANALYSIS, INTERPRETATION, AND MANAGEMENT

5.1 Identify the data reporting requirements, including data reduction procedures specific to the project and applicable calculations and equations.
5.2 Describe data validation procedures used to ensure the reporting of accurate project data.
5.3 Describe how the data will be summarized or analyzed (e.g., qualitative analysis, descriptive or inferential statistics) to meet the project objective(s).
5.3.1- If descriptive statistics are proposed, state what tables, plots, and/or statistics (e.g., mean, median, standard error, minimum and maximum values) will be used to summarize the data.
5.3.2- If an inferential method is proposed, indicate whether the method will be a hypothesis test, confidence interval, or confidence limit and describe how the method will be performed.
5.4 Describe data storage requirements for both hard copy and electronic data.

6. REPORTING

6.1 List and describe the deliverables expected from each project participant.
6.2 Specify the expected final product(s) that will be prepared for the project (e.g., journal article, final report, etc.). Specify the source(s) of the secondary data in any deliverable.

7. REFERENCES

Provide references either in the body of the text as footnotes or in a separate section.

EPA

United States Environmental Protection Agency
Washington, DC 20460

Work Assignment

Work Assignment Number: 2-07

☐ Other ☒ Amendment Number: 000001

Contract Number	Contract Period	Title of Work Assignment/SF Site Name
EP-D-11-006	04/29/2011 To 03/28/2013 Base Option Period Number 1	Characterization of Emissions

Contractor: EASTERN RESEARCH GROUP, INC.

Specify Section and paragraph of Contract SOW:

Purpose:
- ☐ Work Assignment
- ☒ Work Assignment Amendment
- ☐ Work Plan Approval
- ☐ Work Assignment Close-Out
- ☐ Incremental Funding

Period of Performance: From 06/15/2012 To 03/28/2013

Comments:
The work plan dated 07/6/12 has been reviewed and we concur with the labor mix, technical hours (1,611), ODCs, total estimated cost $170,309 and completion date 03/28/13 as specified. This document is IAW the CMM 7.3.5.1(D).

☐ Superfund — Accounting and Appropriations Data — ☒ Non-Superfund

SFO (*Max 2*) ☐

Note: To report additional accounting and appropriations date use EPA Form 1900-69A.

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
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Authorized Work Assignment Ceiling

	Cost/Fee:	LOE:
Contract Period: 04/29/2011 To 03/28/2013		500
This Action:		1,111
Total:		1,611

Work Plan / Cost Estimate Approvals

	Cost/Fee:	LOE:
Contractor WP Dated:		
Cumulative Approved:		

Work Assignment Manager Name: Susan Thorneloe	(Signature)	(Date)	Branch/Mail Code: Phone Number: 919-541-2709 FAX Number:
Project Officer Name: Margaret Dougherty	(Signature)	(Date)	Branch/Mail Code: Phone Number: 919-541-2344 FAX Number:
Other Agency Official Name	(Signature)	(Date)	Branch/Mail Code: Phone Number: FAX Number:
Contracting Official Name: Rodney-Daryl Jones	(Signature)	(Date)	Branch/Mail Code: Phone Number: 919-541-3112 FAX Number:

EPA

United States Environmental Protection Agency
Washington, DC 20460

Work Assignment

Work Assignment Number: 2-07

☐ Other ☒ Amendment Number: 000002

Contract Number	Contract Period	Title of Work Assignment/SF Site Name
EP-D-11-006	04/29/2011 To 03/31/2013 Base Option Period Number 1	Characterization of Emissions

Contractor: EASTERN RESEARCH GROUP, INC.

Specify Section and paragraph of Contract SOW:

Purpose:
- ☐ Work Assignment
- ☒ Work Assignment Amendment
- ☐ Work Plan Approval
- ☐ Work Assignment Close-Out
- ☐ Incremental Funding

Period of Performance: From 06/15/2012 To 03/28/2013

Comments:
The purpose of this amendment is to revise the Statement of Work to add tasks (see attached). The contractor shall submit a revised cost estimate for these tasks (a technical work plan is not required).

This amendment is in accordance with CMM 7.3.5.1.(D).

☐ Superfund — Accounting and Appropriations Data — ☒ Non-Superfund

SFO (*Max 2*) ☐

Note: To report additional accounting and appropriations date use EPA Form 1900-69A.

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
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4										
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Authorized Work Assignment Ceiling

Contract Period: 04/29/2011 To 03/31/2013 Cost/Fee: LOE:

This Action:

Total:

Work Plan / Cost Estimate Approvals

Contractor WP Dated: Cost/Fee: LOE:

Cumulative Approved: Cost/Fee: LOE:

Work Assignment Manager Name Susan Thorneloe (Signature) (Date)	Branch/Mail Code: Phone Number 919-541-2709 FAX Number:	
Project Officer Name Karen C. Watson (Signature) (Date)	Branch/Mail Code: Phone Number: 919-541-3114 FAX Number:	
Other Agency Official Name (Signature) (Date)	Branch/Mail Code: Phone Number: FAX Number:	
Contracting Official Name Rodney-Daryl Jones (Signature) (Date)	Branch/Mail Code: Phone Number: 919-541-3112 FAX Number:	

Statement of Work

I. Title: Characterization of Emissions from Cookstoves and Waste
Contractor Name: ERG
Contract #: EP-D-11-006
WA #: 2-07
Amendment 2

II. Work Assignment Manager (WAM):

WAM Name: Susan Thorneloe
U.S. Environmental Protection Agency
ORD/NRMRL
APPCD (E343-02)
RTP, NC 27711
Phone: (919) 541-2709

III. Background:

Cookstoves are used in the majority of the world's households for cooking, heat, and light. Emissions have been characterized for a wide range of stoves and fuels. EPA is working with the Global Alliance to meet a goal towards more sustainable cookstove and fuel choices in different geographical locations. The logic flow for selecting stove/fuel combinations in Ethiopia and Kenya is being developed using data in a spreadsheet from the Global Alliance that provides data and information. This amendment will help to provide easier access for data mining and complete the initial prototype for obtaining buy in from major stakeholders including the Global Alliance (http://www.cleancookstoves.org/).

IV. Description and Tasks:

Task #5

The data from the Global Alliance is in spreadsheet format which makes it difficult to query and to mine needed information. The Contractor shall develop a database for the data in the spreadsheet working through the format and data parameters that Global Alliance has initially developed to determine what is most useful for developing a cookstove decision support tool.

Task #6

The Contractor shall review available data for Uganda and Kenya and identify any major data gaps that preclude selecting more sustainable stove/fuel combinations based on criteria established by the Global Alliance and other stakeholders. The Contractor shall prepare a memo identifying and prioritizing data gaps that need filling prior to developing the prototype decision

support tool. Using feedback from EPA, the contractor shall collect data needed working through different partners and stakeholders.

Task #7

A series of meetings has been held to discuss how to use multi-criteria decision analysis and cost-benefit analysis to develop a logic framework for selecting stove/fuel combinations. The Contractor shall document the logic framework including decision trees and formulate algorithms that account for emissions, cultural, societal, environmental, and health parameters. The document will be used to help stakeholders and others understand the thought process as well as to make the logic transparent, obtain feedback from partners and stakeholders, and once revised, obtain consensus on the logic framework prior to developing the decision support tool.

Task #8

The Contractor shall participate in two face-to-face meetings with EPA and the Global Alliance for (a) obtaining feedback on the proof of concept decision support tool, and (b) obtain input from the Global Alliance and other stakeholders on their preferences and priorities for selecting stove/fuel combinations that meet the needs of the users in different geographical locations. The meetings will be held in Washington, DC.

Task #9

The Contractor shall begin developing the prototype decision support tool once we have consensus on the proof of concept. The Contractor shall develop the tool following EPA protocol for documentation and review.

V. QA Requirements:

The Contactor shall amend the existing Quality Assurance Project Plan (QAPP) to cover secondary data collection and make updates as needed prior to commencing work.

VI. Deliverables:

Identified within each task.

EPA

United States Environmental Protection Agency
Washington, DC 20460

Work Assignment

Work Assignment Number: 2-07

☐ Other ☒ Amendment Number: 000003

Contract Number: EP-D-11-006

Contract Period: 04/29/2011 To 03/31/2014

Base X Option Period Number

Title of Work Assignment/SF Site Name

Contractor: EASTERN RESEARCH GROUP, INC.

Specify Section and paragraph of Contract SOW

Purpose:
- ☐ Work Assignment
- ☒ Work Assignment Amendment
- ☐ Work Plan Approval
- ☐ Work Assignment Close-Out
- ☐ Incremental Funding

Period of Performance: From 06/15/2012 To 03/31/2013

Comments:

☐ Superfund — Accounting and Appropriations Data — ☒ Non-Superfund

Note: To report additional accounting and appropriations date use EPA Form 1900-69A.

SFO (*Max 2*) ☐

Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
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Authorized Work Assignment Ceiling

Contract Period: 04/29/2011 To 03/31/2014 Cost/Fee: LOE:

This Action:

Total:

Work Plan / Cost Estimate Approvals

Contractor WP Dated: Cost/Fee: LOE:

Cumulative Approved: Cost/Fee: LOE:

Work Assignment Manager Name: Susan Thorneloe
(Signature) (Date)
Branch/Mail Code:
Phone Number: 919-541-2709
FAX Number:

Project Officer Name: Karen C. Watson
(Signature) (Date)
Branch/Mail Code:
Phone Number: 919-541-3114
FAX Number:

Other Agency Official Name
(Signature) (Date)
Branch/Mail Code:
Phone Number:
FAX Number:

Contracting Official Name: Rodney-Daryl Jones
(Signature) (Date)
Branch/Mail Code:
Phone Number: 919-541-3112
FAX Number: