Exhibit A
WORK STATEMENT

TECHNICAL TASK LIST

Task #	CPR	Task Name
1	N/A	Administration
2		Prototype Stack Development
3	X	Alpha Stack Development
4		Beta System Development & Deployment
5		Beta System Operation & Evaluation

KEY NAME LIST

Task #	Key Personnel	Key Subcontractor(s)	Key Partner(s)
1	Thomas Colson Ronald J. Mosso		Ktech Corp.
2	Thomas Colson Ronald J. Mosso		
3	Thomas Colson Ronald J. Mosso		
4	Thomas Colson Ronald J. Mosso		Ktech Corp.
5	Thomas Colson Ronald J. Mosso		Ktech Corp.

GLOSSARY

Specific terms and acronyms used throughout this scope of work are defined as follows:

Term/ Acronym	Definition
ARRA	American Recovery and Reinvestment Act
CPR	Critical Project Review
DOE	United States Department of Energy
Fe/Cr	Iron/Chromium
kW	kilowatt
PAC	Project Advisory Committee
PIER	Public Interest Energy Research
RD&D	Research, Development and Demonstration

Problem Statement:

Broad deployment of renewable generation assets such as wind and photovoltaics has been hindered by a lack of buffering capability in the network to address their inherent intermittency. As the Renewable Portfolio Standards and other initiatives increase the penetration of intermittent renewables, grid stability will be improved if the generating assets are deployed in combination with energy storage. In addition, in combination with

energy storage, renewables would become a dispatchable generating asset, providing energy at critical times.

To date, deployment of energy storage (other than pumped hydro), has been limited because no technology solution exists that has the required combination of safety, reliability and cost-effectiveness.

EnerVault's overall United States Department of Energy (DOE) American Recovery and Reinvestment Act (ARRA) Storage Demonstration project will support development, deployment and evaluation of a grid-scale energy storage system based on EnerVault's patented Engineered Cascade flow battery architecture. The project combines proven redox flow battery chemistry with a unique, patented stack design to yield an energy storage system that meets the combined safety, reliability, and cost requirements for rapid adoption of distributed, utility-scale energy storage systems.

Goals of the Agreement:
The primary goal of this agreement is to support development of a 42 kilowatt (kW) Alpha-scale flow battery stack. This development is a critical step in the overall development of EnerVault's Engineered Cascade flow battery architecture and will advance a technology that is an essential building block of a clean, renewable-energy based Smart Grid. This agreement will provide funding to support the direct labor cost of engineering, design, and testing of the 42kW Alpha-scale flow battery stack by EnerVault's technical staff and result in a report describing the results of the development and testing.

Objectives of the Agreement:
The primary objective of this agreement is to enable evaluation of EnerVault's 42kW Alpha-scale flow battery stack. After development is complete, a test article will be fabricated (along with appropriate test equipment) for use in the performance evaluation. Test results from this effort will be critical to EnerVault's future efforts to develop the technology to the Beta-scale and integrate it with an appropriate balance of system for a field deployment in later phases of the DOE ARRA Storage Demonstration project.

Product Guidelines:
For complete product guidelines, refer to Section 5 in the Terms and Conditions.

TASK 1 ADMINISTRATION

Task 1.1 Attend Kick-off Meeting

The goal of this task is to establish the lines of communication and procedures for implementing this Agreement.

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The Recipient shall:

- Attend a "Kick-Off" meeting with the Commission Project Manager, the Grants Officer, and a representative of the Accounting Office. The Recipient shall bring its Project Manager, Agreement Administrator, Accounting Officer, and others designated by the Commission Project Manager to this meeting. The administrative and technical aspects of this Agreement will be discussed at the meeting. Prior to the kick-off meeting, the Commission Project Manager will provide an agenda to all potential meeting participants.

  The administrative portion of the meeting shall include, but not be limited to, the following:
  - Discussion of the terms and conditions of the Agreement
  - Discussion of Critical Project Review (Task 1.2)
  - Match fund documentation (Task 1.6)
  - Permit documentation (Task 1.7)

  The technical portion of the meeting shall include, but not be limited to, the following:
  - The Commission Project Manager's expectations for accomplishing tasks described in the Scope of Work
  - An updated Schedule of Products
  - Discussion of Progress Reports (Task 1.4)
  - Discussion of Technical Products (Product Guidelines located in Section 5 of the Terms and Conditions)
  - Discussion of the Final Report (Task 1.5)

  The Commission Project Manager shall designate the date and location of this meeting.

Recipient Products:

- Updated Schedule of Products (no draft)
- Updated List of Match Funds (no draft)
- Updated List of Permits (no draft)

Commission Project Manager Product:

- Kick-Off Meeting Agenda (no draft)

Task 1.2 Critical Project Review (CPR) Meetings

The goal of this task is to determine if the project should continue to receive Energy Commission funding to complete this Agreement and to identify any needed modifications to the tasks, products, schedule or budget.

CPRs provide the opportunity for frank discussions between the Energy Commission and the Recipient. CPRs generally take place at key, predetermined points in the Agreement, as determined by the Commission Project Manager and as shown in the Technical Task List above. However, the Commission Project Manager may schedule additional CPRs as necessary, and any additional costs will be borne by the Recipient.

Participants include the Commission Project Manager and the Recipient and may include the Commission Grants Officer, the Public Interest Energy Research (PIER) Program Team Lead, other Energy Commission staff and Management as well as other individuals selected by the Commission Project Manager to provide support to the Energy Commission.

If DOE is conducting similar meetings, the Recipient shall notify and invite the Commission Project Manager to participate, either by teleconference or by actual meeting attendance. The DOE required meetings can be used in place of the Commission's CPR meetings, at the discretion of the Commission Project manager.

The Commission Project Manager shall:

- Determine the location, date, and time of each CPR meeting with the Recipient. These meetings generally take place at the Energy Commission, but they may take place at another location.
- Send the Recipient the agenda and a list of expected participants in advance of each CPR. If applicable, the agenda shall include a discussion on both match funding and permits.
- Conduct and make a record of each CPR meeting. One of the outcomes of this meeting will be a schedule for providing the written determination described below.
- Determine whether to continue the project, and if continuing, whether or not modifications are needed to the tasks, schedule, products, and/or budget for the remainder of the Agreement. Modifications to the Agreement may require a formal amendment (please see the Terms and Conditions). If the Commission Project Manager concludes that satisfactory progress is not being made, this conclusion will be referred to the Energy Commission's Research, Development and Demonstration (RD&D) Policy Committee for its concurrence.
- Provide the Recipient with a written determination in accordance with the schedule. The written response may include a requirement for the Recipient to revise one or more product(s) that were included in the CPR.

The Recipient shall:

- Prepare a CPR Report for each CPR that discusses the progress of the Agreement toward achieving its goals and objectives. This report shall include recommendations and conclusions regarding continued work of the projects. This report shall be submitted along with any other products identified in this scope of work. The Recipient shall submit these

documents to the Commission Project Manager and any other designated reviewers at least 15 working days in advance of each CPR meeting.

- Present the required information at each CPR meeting and participate in a discussion about the Agreement.
- Recipient will provide copies of any DOE correspondence (emails, reports, letters, etc.) that relate to the project status. This includes copies of project performance reviews on Recipient work and summaries and results of project review meetings with DOE.

Commission Project Manager Products:

- Agenda and a list of expected participants (no draft)
- Schedule for written determination (no draft)
- Written determination (no draft)

Recipient Product:

- CPR Report(s) (no draft)
- DOE correspondence and reporting (no draft)

Task 1.3 Final Meeting

The goal of this task is to closeout this Agreement. If DOE is conducting a similar final meeting, the Recipient shall notify and invite the Commission project manager to participate, either by teleconference or by actual meeting attendance. The DOE required meeting can be used in place of the Commission's final meeting, at the discretion of the Commission project manager. However, all items listed in this task will need to be covered in the meeting.

The Recipient shall:

- Meet with Energy Commission staff to present the findings, conclusions, and recommendations. The final meeting must be completed during the closeout of this Agreement.

  This meeting will be attended by, at a minimum, the Recipient, the Commission Grants Office Officer, and the Commission Project Manager. The technical and administrative aspects of Agreement closeout will be discussed at the meeting, which may be two separate meetings at the discretion of the Commission Project Manager.

  The technical portion of the meeting shall present an assessment of the degree to which project and task goals and objectives were achieved, findings, conclusions, recommended next steps (if any) for the Agreement, and recommendations for improvements. The Commission Project Manager will determine the appropriate meeting participants.

The administrative portion of the meeting shall be a discussion with the Commission Project Manager and the Grants Officer about the following Agreement closeout items:

- What to do with any equipment purchased with Energy Commission funds (Options)
- Energy Commission's request for specific "generated" data (not already provided in Agreement products)
- Need to document Recipient's disclosure of "subject inventions" developed under the Agreement
- "Surviving" Agreement provisions, such as repayment provisions and confidential Products
- Final invoicing and release of retention
- Prepare a schedule for completing the closeout activities for this Agreement.
- Copies of all correspondence and reports discussing DOE's findings on the project, and future disposition of the project, if applicable. When directed by the Commission project manager, recipient will provide copies of any DOE correspondence (emails, reports, letters, etc.) that relate to project performance.

Products:

- Written documentation of meeting agreements (no draft)
- Schedule for completing closeout activities (no draft)
- DOE correspondence on project findings and results (no draft)

Task 1.4 Monthly Progress Reports

The goal of this task is to periodically verify that satisfactory and continued progress is made towards achieving the research objectives of this Agreement on time and within budget.

The objectives of this task are to summarize activities performed during the reporting period, to identify activities planned for the next reporting period, to identify issues that may affect performance and expenditures, and to form the basis for determining whether invoices are consistent with work performed.

With Commission Project Manager approval, the Recipient can submit a DOE Progress Report in lieu of the required Commission report if contains the information listed in Attachment 1 of the Terms and Conditions.

The Recipient shall:

- Prepare Monthly Progress Reports which summarize all Agreement activities conducted by the Recipient for the reporting period, including an assessment of the ability to complete the Agreement within the current budget and any anticipated cost overruns. Each progress report is due to

the Commission Project Manager within 10 days of the end of the reporting period. The recommended specifications for each progress report are contained in Exhibit A, Attachment A-2.

- Unless otherwise directed by the Commission Project Manager, each Progress Report must contain any reports made to DOE, including summaries of meetings with DOE, as it relates to the project outcome and performance. Include names and contacts of DOE representatives.

Product:

- Monthly Progress Reports (no draft)
- Copies of DOE reporting and meeting summaries (no draft)

Task 1.5 Final Report

The goal of the Final Report is to assess the project's success in achieving its goals and objectives, advancing science and technology, and providing energy-related and other benefits to California.

The final report shall describe the following at a minimum: a) original purpose, approach, activities performed, results and conclusions of the work done under this Agreement; b) how the project advanced science and technology to the benefit of California's ratepayers and the barriers overcome; c) assessment of the success of the project as measured by the degree to which goals and objectives were achieved; d) how the project supported California's economic recovery in the near term and number of jobs created or sustained; e) how the project results will be used by California industry, markets and others; f) projected cost reduction impact and other benefits resulting from the project; g) discuss the project budget, including the total project cost and all the funding partners and their cost share; h) discuss how the Energy Commission funding was spent on the project, including any unique products and benefits; i) observations, conclusions and recommendations for further RD&D projects and improvements to the PIER project management process.

If a final report is required by DOE, the Recipient will include a copy of it along with the Energy Commission's final report requirements. In addition, the Recipient shall submit the draft final DOE report to the Energy Commission for review at the same time it submits it to DOE.

The Final Report shall be a public document. If the Recipient has obtained confidential status from the Energy Commission and will be preparing a confidential version of the Final Report as well, the Recipient shall perform the following activities for both the public and confidential versions of the Final Report.

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The Recipient shall:

- Provide a draft copy of the Final Report including a copy of the draft submitted to the U.S. DOE in response to the American Recovery and Reinvestment Act Funding Opportunity Notice for which an award was received. The Final Report must be completed on or before the end of the Agreement Term.
- Submit written correspondence from DOE regarding acceptance of the final report.

Products:

- Draft Final Report, including a copy of the draft report submitted to DOE
- Final Report, including a copy of the final report submitted to DOE
- Written correspondence from DOE regarding acceptance of final report (no draft)

Task 1.6 Identify and Obtain Matching Funds

The goal of this task is to ensure that the match funds planned for this Agreement are obtained for and applied to this Agreement during the term of this Agreement.

The costs to obtain and document match fund commitments are not reimbursable through this Agreement. Although the PIER budget for this task will be zero dollars, the Recipient may utilize match funds for this task. Match funds shall be spent concurrently or in advance of PIER funds for each task during the term of this Agreement. Match funds must be identified in writing and the associated commitments obtained before the Recipient can incur any costs for which the Recipient will request reimbursement.

The Recipient shall:

- Prepare a letter documenting the match funding committed to this Agreement and submit it to the Commission Project Manager at least 2 working days prior to the kick-off meeting. The letter needs to identify the following at a minimum:
  - Amount of each cash match fund, its source, including a contact name, address and telephone number and the task(s) to which the match funds will be applied.
  - Amount of each in-kind contribution, a description, documented market or book value, and its source, including a contact name, address and telephone number and the task(s) to which the match funds will be applied. If the in-kind contribution is equipment or other tangible or real property, the Recipient shall identify its owner and provide a contact name, address and telephone number, and the address where the property is located.
- Provide a copy of the letter of commitment from an authorized representative of each source of cash match funding or in-kind contributions that these funds or contributions have been secured.

- Discuss match funds and the implications to the Agreement if they are reduced or not obtained as committed, at the kick-off meeting. If applicable, match funds will be included as a line item in the progress reports and will be a topic at CPR meetings.
- Provide the appropriate information to the Commission Project Manager if during the course of the Agreement additional match funds are received.
- Notify the Commission Project Manager within 10 days if during the course of the Agreement existing match funds are reduced. Reduction in match funds must be approved through a formal amendment to the Agreement and may trigger an additional CPR.

Products:

- A letter regarding match funds (no draft)
- Copy(ies) of each match fund commitment letter(s) (no draft)
- Letter(s) for new match funds (if applicable) (no draft)
- Letter that match funds were reduced (if applicable) (no draft)

Task 1.7 Identify and Obtain Required Permits

The goal of this task is to obtain all permits required for work completed under this Agreement in advance of the date they are needed to keep the Agreement schedule on track.

Permit costs and the expenses associated with obtaining permits are not reimbursable under this Agreement. Although the PIER budget for this task will be zero dollars, the Recipient shall budget match funds for any expected expenditures associated with obtaining permits. Permits must be identified in writing and obtained before the Recipient can make any expenditures for which a permit is required.

The Recipient shall:

- Prepare a letter documenting the permits required to conduct this Agreement and submit it to the Commission Project Manager at least 2 working days prior to the kick-off meeting. If there are no permits required at the start of this Agreement, then state such in the letter. If it is known at the beginning of the Agreement that permits will be required during the course of the Agreement, provide in the letter:
  - A list of the permits that identifies the:
    - Type of permit
    - Name, address and telephone number of the permitting jurisdictions
    - or lead agencies
  - The schedule the Recipient will follow in applying for and obtaining these permits.
- Discuss the list of permits and the schedule for obtaining them at the kick-off meeting and develop a timetable for submitting the updated list,

schedule and the copies of the permits. The implications to the Agreement if the permits are not obtained in a timely fashion or are denied will also be discussed. If applicable, permits will be included as a line item in the Progress Reports and will be a topic at CPR meetings.

- If during the course of the Agreement additional permits become necessary, provide the appropriate information on each permit and an updated schedule to the Commission Project Manager.
- As permits are obtained, send a copy of each approved permit to the Commission Project Manager.
- If during the course of the Agreement permits are not obtained on time or are denied, notify the Commission Project Manager within 10 days. Either of these events may trigger an additional CPR.

Products:

- Letter documenting the permits or stating that no permits are required (no draft)
- A copy of each approved permit (if applicable) (no draft)
- Updated list of permits as they change during the term of the Agreement (if applicable) (no draft)
- Updated schedule for acquiring permits as changes occur during the term of the Agreement (if applicable) (no draft)

TECHNICAL TASKS

TASK 2 PROTOTYPE STACK DEVELOPMENT

The goal of this task is to develop, fabricate, and test a 2kW prototype stack for an Iron/Chromium (Fe/Cr) redox flow battery using EnerVault's patented Engineered Cascade Architecture.

The Recipient shall:

- Develop a 2kW prototype flow battery stack
- Fabricate a 2kW prototype flow battery stack
- Develop and fabricate flow battery test stations to support development
- Test performance of the 2kW prototype flow battery stack
- Prepare Prototype Stack Development status reports

Products:

- Prototype Stack Development status reports

TASK 3 ALPHA STACK DEVELOPMENT

The goal of this task is to develop, fabricate, and test a 42kW Alpha stack for an Fe/Cr redox flow battery using EnerVault's patented Engineered Cascade Architecture.

The Recipient shall:

- Develop a 42kW Alpha-scale flow battery stack by scale up from 2kW prototype scale
- Fabricate a 42kW Alpha-scale flow battery stack
- Develop and fabricate flow battery test stations to support development
- Test performance of the 42kW Alpha-scale flow battery stack
- Prepare a 42kW Alpha-scale flow battery stack test report
- Attend CPR as per Task 1.2

Products:

- Test report for 42kW Alpha Stack

TASK 4 BETA SYSTEM DEVELOPMENT & DEPLOYMENT

The first goal of this task is to develop and fabricate the balance of system for a 250kW Beta system and integrate it with six 42kW Fe/Cr redox flow battery stacks based on EnerVault's patented Engineered Cascade Architecture. A second goal is to deploy the system to a test site in Turlock, CA for evaluation.

The Recipient shall:

- Develop and fabricate a 250kW balance of system
- Fabricate six 42kW flow battery stacks
- Integrate the balance of system with the flow battery stacks
- Deploy the integrated system to a test site in Turlock, CA
- Prepare Beta System Development & Deployment status reports

Products:

- Beta System Development & Deployment status reports

TASK 5 BETA SYSTEM OPERATION & EVALUATION

The first goal of this task is to commission and operate a 250kW Beta system based on EnerVault's patented Engineered Cascade Architecture. A second goal is to monitor and record data on the operation of the Beta system over a 3-6 month period.

Exhibit A
WORK STATEMENT

The Recipient shall:

- Commission the Beta system
- Operate the Beta system over a 3-6 month period
- Monitor and record data on the operation of the Beta system over a 3-6 month period
- Prepare Beta System Operation & Evaluation status reports

Products:

- Beta System Operation & Evaluation status reports