

Hatch Progress Report

2 Jul 2014

AEA Grant 7310045**Application of Composite Flywheels****Grantee: Hatch**Distribution
Alan P. Baldivieso**Progress Report - 22 Mar 2014 to 27 Jun 2014****1. Deliverables Submitted**

Updated Project Schedule (26 Jun 2014).

2. Budget

An invoice and budget form has been prepared with this report. The amount invoiced is \$70,762.97. Total expenditures were \$121,997.86

3. Schedule Status

The most recent schedule is expected to be revised slightly by moving the commissioning work to 1 week earlier and completing the testing phase by the end of November.

4. Percent Complete

WBS	TASK	% complete
1101	50% test facility fee	100%
1200	Initial Site Visit and Data Collection	100%
1300	Analyze data, models, & define design criteria	100%
1400	Develop core control algorithm for flywheel control	100%
1500	Modeling and simulation of the wind-diesel-flywheel system and flywheel sizing	100%
1600	Complete conceptual integration study report	95%
2100	Specification of components, controls, & system architecture	100%
2201	Controller Procurement	75%
2300	Control hardware programming	50%
2400	In-house performance testing	0%
3101	Procure flywheel	90%
3201	Package and ship flywheel to ACEP test facility	10%



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5. Work Progress

WBS	TASK	WORK COMPLETED
1200	Initial Site Visit and Data Collection	Project Manager made a site visit to the ACEP lab in Fairbanks.
1500	Modeling and simulation of the wind-diesel-flywheel system and flywheel sizing	Received updated flywheel and inverter models and incorporated into program.
2100	Specification of components, controls, & system architecture	Completed analysis of controllers and related equipment, verified equipment specs meet or exceed design criteria, and prepared initial build drawings.
2201	Controller Procurement	Procurement of controllers, communications, and related equipment. Equipment delivered and forwarded to panel contractor and procured the construction of cabinets with equipment installed.
2300	Control hardware programming	Main algorithms coded along with initial I/O handling and operator interface.
2400	In-house performance testing	Initial testing of software modules has begun. Controllers, hardware modules, and CT's individually tested as noted previously.
3101	Procure flywheel	Flywheel construction is 95% complete (some ancillary equipment still needs assembly). Machine has been run to partial load and going through factory acceptance testing.
3201	Package and ship flywheel to ACEP test facility	Flywheel base plate delivered to ACEP facility.

6. Future Work

WBS	TASK	WORK
2100-2400	Controller and In house testing	Complete controller package assembly, test, and ship for testing. Updates to programming expected to be ongoing until project completion
3100-3700	Flywheel installation and testing.	Will install flywheel and controller at ACEP lab, commission with the ACEP procured inverter, and begin integration testing.

Daniel Hertrich



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