

Minutes for Team HEV Weekly Meeting with Professor Schafer, 03/01/2010:

### **Action Items—Closed**

#### A. MOSFET Circuitry

- a. All 4 sensor circuits complete
- b. Starter circuit complete
- c. On/off circuit complete
- d. Glow plug circuit complete
- e. Monday: acquiring sensors to do final tests with microcontroller

***All fine, current op/amps are fine but get different ones for demos***

#### B. Microcontroller Programming

#### C. GPS

##### a. Inventek Systems:

- Confirmed it will do latitude/longitude and altitude
  - 1. Rep said not as accurate in altitude measurements (but that's the case for all GPS, it will be accurate enough for our uses)
- Functional Specifications:
  - 1. Serial communication: support transmit/receive on two ports, each implemented by a UART
    - a. Supports two protocols (SIRF Binary and NMEA-0183)

***Will affect board layout***

***Serial port so that is good***

***SMA plug for antenna but have to maintain 50 ohms on that line***

#### D. Charging Circuitry: completed

##### a. Testing

- ***80 amps through ultracapacitors with 50 V across ~ 4kW***
- ***Motors of wheels run off of 4 kW that is good***
- ***Modified 2:1 transformer to a 3:2 transformer***
- ***Entire system is ready to be loaded onto the truck***

### **Action Items—Open**

#### A. Low Level Design

- a. Demo: Schedule for Wednesday or Thursday of this week
  - Will complete testing today and tomorrow
- b. Document
  - Final Updates will be completed by demo

#### B. Ultracapacitor Boxes

- a. Will check with Dr. Bauer's grad student
  - Talk to Bauer and other partners***

#### C. GPS

- a. Order
- b. Begin figuring out interface

#### D. 70 A Fuse

***Don't need anymore because there is already one on the box***

***Other Notes:***

***Current microcontroller is hard to solder, small spacing on pins***

***Don't need two serial ports, only 1***

***Need an SPI port for the S/D card***

***Look at spec sheet carefully only have one shot***

***Issues:***

***Running out of gas***

***Button reset***

***Can I overdrain the Ultracaps***

***Charge dead Ultracaps?***

***What are the controls of the driver to this board***