

Detailed Design Review Notes for P12401

Created: 11/4/11

Last Modified: 11/13/11

\*\*\*\*\*CHANGE COLOR OF ACTION ITEM TO BLACK AND PUT DATE AFTER ITEM WHEN IT IS COMPLETE\*\*\*\*\*

<u>Owner</u>	<u>Action Items</u>
Zeng/Justin	Look into reverse bias diode for the 2 relays. (11/10) -Diode will be placed on PCB
Zeng/Justin	Revisit barrel connector to 12402. (molex, tyco?, ...) (11/10) -P12402 is continuing to use barrel connector
Zeng	Floating pins? Break out, jumpers Assume all metal parts will assume charge (11/10)
Zeng	Fix LED colors and create correct ordering (11/10)
Phil	Mechanical Drawings*** (11/5)
Frank/Justin	What is W/hour and Amp/hour? Need to change power units. (11/4)
Frank	Add more description to the wind analysis page (11/5)
Phil	Analyze the size of the the hole on the bottom of the stand for the wires connecting the turbine to the turbine charge controller (MPPT). (11/5)
Phil	Add guy wires to models and explain how they attach. (11/5)
Bradley	Investigate the welding of the U-channel to the base plate, 1/8" plate is only \$2.34 cheaper 4476T31, not worth the risk (11/8)
Frank	Battery operating temperature should changed to be -4°F to 122°F. (11/5)
Phil	Add to assembly plan about how to setup the wire connections(11/5)
Justin	Wire block diagram change "Barrel Connector to 12401" to "Barrel Connector to 12402". (11/8)
Justin	<b>Wrench / screw driver for battery</b> <b>-Need battery to determine size of wrench</b>
All	<b>Create internal part numbering scheme for system</b> <ul style="list-style-type: none"><li><b>Follow scheme started on 11/11 1xxx numbers.</b></li></ul>

**Phil** Mechanical component internal p/n on BOM and drawings (11/11)

**Brad** Incorporate some way to attach all the tools and pins to the assembly in an organized manner. (Ideas thought of 11/8)

**Frank** Figure out how to ground the ground wire coming out from the turbine (emailed Dave Hathaway 11/8)

**Erik** Create System Level Assembly Plan (11/11)

**Erik** System Level Testing Plan

**Justin** Include battery sustainability document. End of life, recycling, etc.  
-Will be added at a later date

**Zeng** PCB component internal p/n on BOM and drawings

- Finalize the board and DON'T CHANGE IT!

**Justin** Wire lengths added to wire spreadsheet  
-Wire lengths will be calculated when system is assembled

**Phil** Harness drawings with internal p/n on BOM and drawings

**Phil** Design electronics cover panel once electronics are set

- Needs access to stop switch and MPPT cover
- Possibly have room for 402 charging dock?
- If so, eliminate wire out holes in enclosure

**Phil** Clamps for guy wires (11/11)

**ME's** Assembly tools attached permanently should be on BOM

**ME's** Assembly tools permanently attached should be in 3-D model

**Phil** Put a note on drawing to debur the hole the wire exits (11/11)

**Phil** Put some initial set up instructions on leg assembly dwg (11/11)

**Zeng** Add electric connectors rather than soldering power wires to the board, and look into what connectors to use on the board

**Zeng** Check into adding a 10k ohm resistor to the test points ( I don't know why, just remember Leo said something about it)

- Zeng**                      **Use jumpers for any spare terminals**
- Brad**                      **Change PCB drawing to have consistent units (change to mm 11/12)**
- Brad/Phil/Zeng**        **Check into using snap holders for attaching the board, and check if both teams could use the same solution**
- Brad**                      **Change PCB material on PCB drawing to FR-4 (11/12)**
- Brad**                      **Change PCB drawing to reflect hanging power jacks off the edge, and update with latest PCB schematic. Mounting hole size/location.**
- ME's**                      **Cart idea for transportation, or attaching a dolly to the bottom of the tote (Frank: Found three totes from Lowe's/Home Depot that have wheels on one side. See examples below. 11/13)**
- [http://www.homedepot.com/h\\_d1/N-5yc1v/R-202097689/h\\_d2/ProductDisplay?langId=-1&storeId=10051&catalogId=10053](http://www.homedepot.com/h_d1/N-5yc1v/R-202097689/h_d2/ProductDisplay?langId=-1&storeId=10051&catalogId=10053)
- [http://www.lowes.com/pd\\_314131-61896-314131\\_0\\_?productId=3098753&Ntt=tote&pl=1&currentURL=%2Fpl\\_0\\_s%3Fnt%3Dtote%26page%3D1&facetInfo=](http://www.lowes.com/pd_314131-61896-314131_0_?productId=3098753&Ntt=tote&pl=1&currentURL=%2Fpl_0_s%3Fnt%3Dtote%26page%3D1&facetInfo=)
- [http://www.lowes.com/pd\\_306966-78148-92242-4C-SLIP\\_0\\_?productId=3085545&Ntt=tote&pl=1&currentURL=%2Fpl\\_0\\_s%3Fnt%3Dtote%26page%3D4&facetInfo=](http://www.lowes.com/pd_306966-78148-92242-4C-SLIP_0_?productId=3085545&Ntt=tote&pl=1&currentURL=%2Fpl_0_s%3Fnt%3Dtote%26page%3D4&facetInfo=)
- ME's**                      **Tie-down for the battery if the battery stays in the tote during transportation**
- ME's**                      **Tweak turbine and stand assembly process to reflect putting blades on towards the end of the process.**
- Justin**                    **Insert wire and terminal part numbers on the wiring requirement list  
-(11/13)**