**System Design Review Follow-up Requirements**

Team 2 – Portable Infant Incubator

The review was held 10/2/09. All team members and selected BE faculty members were present.

The following item must be explicitly addressed in the next design review briefing document that will be due just before or after the winter holiday break.

1. Reconsider specifications and alarms, particularly: upper humidity limit, lower alarm intensity limit, upper and lower temperature limits, upper (if supplemental O2 is provided) and lower O2 limits and upper CO2 limit and low battery. Note that all of these do not need to be included; they just must be carefully considered.
2. Consider failsafe and/or alarms for loss of air flow (fan failure, blocked outlet, etc.).
3. Address battery charge, recharge status during long term storage.
4. Create an overall energy balance model of device (with infant) to understand and size heating and cooling requirements.
5. Consider and address the possibility of overheating do to environmental factors (ambient temperature and solar heating).
6. Consider thermal and radiation insulation to avoid excessive energy use in cold environments and overheating in warm, sunny ones.
7. Consider battery heating effects (charge and discharge).
8. Create a CO2, O2 and H2O mass balance model of device (with infant) to understand gas flow and humidification requirements. Hint: use In + Gen = Out + Acc and note that the mass flow rate of N2 in equals the mass flow rate of N2 out and the device volume stays constant.
9. Consider water source.
10. Consider a single set of optimal settings. State what they optimal settings are likely to be.

Signatures (Indicating that students understand and will address issues raised and that all major faculty concerns are listed):

Nat Schumacher Dr. C. Tritt

Team 2 PM Class Chief Engineer