Team Meeting #2
Tuesday, February 12th, 2009
1:15 PM

Agenda
- Taylor Ranch visit checklist
- Ideas from current research
- Project proposal
- People to contact

Taylor Ranch Checklist
- Things to observe at the ranch:
  - Solar fields/areas for placement of solar sites
  - Piping system, hyrdo turbine facility
  - Battery house
  - All available water sources ***IMPORTANT
  - Every building (internal layouts, outlets, appliances, etc.)
  - Path between current/potential generation sites and load
- What to bring:
  - Camcorders/digital cameras
  - Laptops (2 max)
  - Measuring tape/rulers
  - Stationary supplies
  - Digital multimeters
  - Backup batteries
  - Flashlight
- What should we ask the caretakers?
  - Water right issue: hat allotment is available for our use?
  - What is their “ideal” facility setup (appliances, lab equipment, etc.)?
    - Useful for making load estimate for expansion of current system
  - What equipment in the current system causes the most problems?
    - Alternators within current hydro system definitely a maintenance issue
  - Any constraints on expanding the physical size of the power system
    - Some “scenic” sites may not be acceptable for solar field expansion

Ideas from Current Research
- Water turbines: either larger turbine/bigger pipe or additional smaller turbines using current flow/head figures.
- Solar farms: expand into 2-3 of the potential solar sites
- Convert system to AC/HVDC where possible if conduction losses outweigh conversion losses
- Move power house to get more head
- Combined flywheel/ultracapacitor temporary storage to aid in battery charging algorithm
- Increase current utilization of biomass energy
- Flow batteries for energy storage
• Larger backup generation (microturbines, combined cycle generators)

Project Proposal
• Project abstract (group activity)
• Background of current system
• Goals and objectives ***IMPORTANT; main focus, group collaborative
• How are we going to achieve these goals/achieve success?

People to Contact
• CNR customer/contact (Wyatt Knepper, team communications person, will contact)
• Talk to Dr. Hess about our ideas/compromises
• Contact individuals from previous senior design project

Early Meeting Next Week:
• Meet Monday, February 16th, 2:00 PM Power Lab
• Review video from Taylor Ranch trip
• Get proposal tasks outlined
• Discuss best alternatives for project