I. What is this system used in?
   Electrical enclosure for testing in a hostile environment (10,000psi max)
II. What is the purpose of this system?
   a. How is it used in the field?
III. Is there any required Inputs/type of inputs?
   Digital displayed required
IV. What is the required Output?
   a. Analog vs. Digital
V. What information is needed from the system?
   a. Current System Response Variables?
VI. Are there any size Constraints?
   a. Stationary or moveable?
VII. Where is the system located? What kind of environment is it located in?
VIII. Are there any extra safety requirements besides the standards?
IX. Do you we need to provide regular updates to customer?
X. Any other contacts for the project if he is not around/ if we need more assistance?
   a. Can we converse with the tech who uses the machine in the field?
XI. Who provides budget approval for purchases?
   a. Contact info?
XII. What are some specific issues with the old machine?
   a. Specific aspects that need to be improved?
   b. Are there any new features that need to be incorporated?
   c. Are there any components that must stay the same?

Minutes

- Test apparatus will be built at RIT and tested in SYR
- Electrical enclosure for hostile environment (max 10,000psi)
  - Enclosure size
    - Smallest: <20lbs, 1'x 1'
    - Largest: ~1000lbs, 3.5'x 6'x 4'
  - Looking for ease of process
  - Concentrate on PLC aspect
- Customer wants automated Vs. manual setup with varying pressure
- Separate computer set-up to control apparatus
- No laptop/computer purchases necessary
- Need to be able to control: Time (ramp rate), pressure and hold time
  - Current ramp rate according to spec is 10sec. This can vary.
- Apparatus used in their lab for testing once or twice a day. Not being manufactured.
- SAFETY is a major concern we need to consider.
- Needs to be operator friendly
  - Instruction procedure

  - Safety procedure
- Not purchasing pump- will be using existing one
  - Customer pump looks old-concern with digital compatibility?
  - Pump is constant RPM-controlled thru valve
- No size restrictions
- Budget approvals through Varela.
  - No price restrictions on any materials
- Is there a hydraulic return?
  - Customer only has release valve that is connected to drain
  - Maybe design a safety feature on exit valve?
    - If psi drops to ½→default shut off?
- Questions to customer:
  - Do they want a manual valve too (as a safety feature)?
  - Technician and engineer we can contact
  - Pipe specifications (dia, reusing pipes?)
  - Testing with oil or water?

<u>Actions Items:</u>