

Meeting on 12 Dec 2012 to discuss further concept assessment and give individual status updates.

#### Reminders (John):

- Note for EDGE: Don't upload word docs, save as PDF instead
- Customer needs & specs to be uploaded on EDGE
- Andrew has completed house of quality
- 1 pg summary has been uploaded to EDGE

#### Uniform flow analysis (Andrew):

- 1 inlet, 2 exits. Each with valves to control flow rates.
- Is easier than controlling speed with gate
- Could use flow meter on each valve to ensure steady state
- John will check with Rob to make sure it can be built

#### Flow meter

- Nice to have quantitative flow meter. Able to calculate flow through camera.

#### Pump Specs (Danny)

- Planning to overdesign pump spec to be used for other applications
- Pump calculations aren't as important.
- Could possibly have pump with 5x spec.

#### Feasibility

##### Analysis needed:

- Electrolysis
  - Amount of hydrogen being produced (Danny)
  - Bubble rise (Tim)
- Test specimen holding
- Flow Analysis
  - Big enough drain hole, can achieve velocity spec
  - Hand calcs and CFD analysis (Tim and Andrew)

##### Functions:

- Pump water
- Drain water
- Straighten flow
- Holds/rotate test specimen
- Electrolysis

#### Timing Diagrams

- May not be applicable to our system. Danny will look into this.

#### Risk Assessment (Tim and Andrew)

- To be completed by Friday

SDR

To be scheduled by Friday. Hoping to present SDR Wednesday 12/19.

#### Test Fixture Holding

Threaded screw design – not very user friendly. May strip under high torques

Lazy Susan design – need some type of locking mechanism

Underwater motorized turntable/servo – need more research

Shaft through the table with sealed bearing – easiest design, most feasible

Potential risk of leaking