HPRT MEETING MINUTES

Staff Meeting

Honeywell Pressure Regulator Team (HPRT)

Friday, 02 February 2018
10:00 - 10:35 AM

Minutes recorded by: Myla Azofeifa

Meeting called by: Dr. David Trevas

Attendees: William McGinn, Alex Rustaey, Yi Tong Zhang

Table 1 - Record of Meeting

10:05 AM	**Begin Meeting** ● Meeting called to order by Dr. Trevas ● Topics: ○ Updates	EGR 323
	Bellows Valve (Bill) ● Print completed ● Possibly use the RapidLab → we would use significant university resources ● Start testing next week ○ Pressure gauges are already acquired ○ Barb hose fittings, connect hose to pressure gauge ● Tu/Th lab testing → Trevas availability ○ Testing on Thursday, 2:20-5pm	EGR 323
	Non-Dimensionalization Update (Peter) ● Found references and equations, but is having some difficulty ● Is now trying to figure out how to get the rotation speed from the energy	EGR 323
	Turbine Blade Design Update (Alex) ● Received a book from Acker, but having some difficult deciphering things ● Looking at axial flow, 2D flow ● Based on calcs, we should be using a piston turbine, but we are getting inconsistent results	EGR 323

	● (DT) Try not to get too caught in the theory; start with something that already exists and tweak it ● Trying to find the Best Efficiency Point (BEP) ○ We want low efficiency; almost want to work at the lowest efficiency ○ Pull as much energy out as possible	
	Motor/Generator ● Should have added a load to the generator ○ I.e., a lightbulb, or another motor that has some torque on it ○ (Bill) We did → use voltage supply/resistor, but the resistor was only 0.5 watts (potentiometer with a load) ● Possibly use an AC alternator and rectify it to get a DC output instead ○ Load the alternator; look into tiny ones	
	NAU Innovations Update ● Talked to NAU Patent lawyers ● Because we have not used any significant university resources, they do not have any rights to the idea ● To save money, use a patent agent	EGR 323
	The Little Red Hen ● The Little Red Hen wants to make bread, so she goes to get wheat, but no one will help her, but everyone wanted to eat her bread, but she was like nooo where were you when I needed to get wheat ● Moral of the story: good parable to know as an engineer	EGR 323

Table 2 - Action Items (Tasks Assigned)

Tasks	**Person Assigned**	**Due Date**	**Date Complete**
Send Haley & Dave CAD package and sketches of the geometric modeling of the bellows valve area enclosure.	All	ASAP	
Update semester schedule and send to Haley & Dave.	All	ASAP	
Continue designing turbine concepts.	Alex Rustaey	02/02/2018	

Use Buckingham Pi Theorem to nondimensionalize the problem. Design circuit for the loading.	Yi Tong Zhang	02/09/2018	
Look into alternators and motors/generators.	Myla Azofeifa	02/09/2018	
Test bellow valve. → Lab will be open on Tu/Th when Dr. Trevas is in there for 495L. Planning on Thursday, sometime between 2:20-5:00pm.	Bill McGinn	02/09/2018	
Determine geometric model for the area enclosure. Talk to the math department; coordinate with Honeywell.	Jordan Loos	02/09/2018	
Complete shop safety training. Must be done on a weekday at 9:30am. Contact Kellan Rothfus for more information.	*Jordan Loos* *Bill McGinn* *Alex Rustaey* *Yi Tong Zhang*	*Spring 2018*	*Alex - 10/24/2017*

Next formal meeting: Friday, 9 February 2018, EGR 323, 10:00AM