

SELVA Meeting 07/15/2014

Attendees: Jerzy Nogiec, Roger Nehring, Kelley Trombly-Freytag, Sergey Kotelnikov, Lidija Kokoska, Fred Lewis, Fred Nobrega

• Project Status

- **The highest priority: the tension system, followed by motor synchronization.**
- Machine status: the machine is operational again. All the drivers have been repaired. All sensors are ok.
- Requisitions:
 - 2 x 242 drivers
 - An angular encoder for the X axis
- Repairs:
 - Finish repair of the angular encoder
 - Build another interface board, populate it and make connections
- Safety improvements:
 - Prepare on Friday, to install emergency trip system upgrades on Saturday. Need final specs for bumpers. Dana will check on the bumper order status.
 - Boom will have tigon tubing replaced when the machine is available.
- Motion control:
 - All personality cards will need to be examined.
 - May end up limit the rate of changes of PID output to stop the motor cutting out problem
- Tension system:
 - Now the highest priority to get working.
 - Motor is set up. Get the rope setup this afternoon.
 - The problem with the winch was tension increased with current ramp, but when current decreases the winch mechanically locks. The locking mechanism can be disabled, so this should be tested again. Max. current produces 50lbs.
 - The winch should be mounted again. Contact Terry Cross for someone to work with while Lidija is on vacation.
- Synchronization testing will coordinate with tension

• Meeting Topics

- 1) Action items from the previous week
- 2) Status of the machine (Andrzej)
 - a) Status of the drivers and the power supply
 - b) Plan for testing the machine or improvements

- 3) Tension control tests
 - a) Mechanical setup in IB3 (Lidija)
 - b) Test plan (Roger)
- 4) Motion synchronization testing (Sergey)
- 5) Implementation of the improvements to the safety system (Fred L., Dana)
- 6) Possible requisitions (angular encoder, 242 driver) (all)
- 7) Safety, ideas, comments, etc. (all)

• **Safety**

Everybody make sure to sign the modified HA in IB3.

• **Problems**

- Oscillations observed with the Z drive holding the position
- Different velocities of the mandrel motors, not easily correctable via the normal adjustment on the driver.

• **Action Items**

Jim Rife, Rick Smith, etc.

Lower the Bridge to the tracks/rails.	To be done after motors are running correctly and other testing.	Suspended 6/10/2014
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Fred Nobrega

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Fred Lewis

Repair the existing damaged encoder	Parts are in. Should be complete week of 7/15	5/20/2014
Install safety system improvements if panel is complete	7/15 : back in queue after driver hold	5/27/2014
Ensure we have replacement encoders for future use	7/15 Will be ordered: an universal encoder	5/27/2014
Review the requisition for a new driver – get the newest version they have	7/15: back in queue after driver hold	7/1/2014
Work on 2 nd interface board, will be the production model		7/15/2014

Lidija

Reinstall winch		
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Andrzej

Add comments to the FPGA I/O test program	Describe all I/O channels In progress 7/15	7/1/2014
Coordinating adjusting speed and offset for all motors		7/15/2014

Jerzy

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Roger

Execute and document tension control test plan	Documentation is complete, execution suspended on mechanical work; In progress	4/22/2014
Test programmatic motion control of the tension motor.	Restarting after hold for driver problem	6/3/2014

Sergey

Create note on naming conventions on I/O channels	In progress	4/29/2014
Add the reel and tension motor control to the motor test and PID tuning program.	Postponed	6/3/2014
Work on synchronizing the mandrel and bridge motors	In progress, working on software	6/10/14
Review Mandrel Test Plan		7/8

Dana

After wiring has been okayed and trenches are covered, then inspect the area for small objects and have them removed		Suspended – waiting for wiring OK
Investigate and create proposal for additional or replacement collision sensors and order the sensors.	5/6: investigation of tubing started 6/10: investigate ordering bumpers From Tapeswitch 7/1: Bumper order in system, single bumper in each position 7/15: Check status of order	5/27/2014
Mandrel test plan	7/15: waiting on Sergey	6/10/14

Kelley

Get a spreadsheet of the results of testing I/O signals.	Put in SELVA wiki All I/O signals not yet defined - doc not complete	Suspended 5/20/2014
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Everyone

Document: Machine Start checklist	Needs input from Andrzej	7/15/2014
Document: Interlock list	Needs review	7/15/2014
Document: Permissives	Needs review	7/15/2014

• Completed Action Items

Fred Nobrega	Check out possible problems with gear box	Luciano tried to check but found no one. Problem fixed via other methods; complete unless problem shows up again	7/15/2014
Lidija	Implement mechanical setup for tension testing	Complete	7/15/2014
Lidija	Install temporary wooden "strongback" for mandrel sync tests	Complete	7/15/2014
Andrzej	Driver overheating problem	Fixed	7/15/2014
Jerzy	Functional requirements clarification	Meeting held	7/15/2014
Dana	Document: Note on bridge light color	Document complete	7/15/2014
Dana	Meeting with Roger, Sergey, Jerzy on the Startup, Permissives and Interlock list to get input	Complete	7/15/2014
Dana	Send reminder email for everyone to read the updated Hazard Analysis	Sent	7/15/2014