

SELVA Meeting 08/05/2014

Attendees: Jerzy Nogiec, Roger Nehring, Sergey Kotelnikov, Andrzej Makulski , Kelley Trombly-Freytag, Fred Lewis

• Project Status

- **The highest priority: the tension system, followed by the reel control system and motor synchronization.**
- Winding test prep- minimum needed:
 - Bridge: check motion. Try program, run and check max speeds. Test step sizing. Motion feedback for tension? Move until angular encoder is in the middle before lowering. Make sure that we can limit acceleration and speed to be able to regulate tension.
 - Mandrel: calibrate all motor 0 (home) positions. Check angle calibration (a/e ticks per degree). Try to adjust speed of one motor.
 - Boom: adjust speed. Ensure angular encoder rollover is handled. Handle home position later.
 - Reel: combine with tension in FPGA. Try with cable. Need manual operation and automatic. Make sure we have the check of the initial cable position included.
 - Tension: try fuzzy logic controller. Try limiting the integration part in the driver speed controller.
 - Simplify our test GUIs for the winding test.
- Sensing edges: rep here tomorrow to see the machine around 11am. Our drawings are probably everything they need to manufacture the edgings.
- We need to organize a separate meeting with Ruben, Nunez, Andrzej, Roger and Jerzy as participants, devoted to handling power outages and power disturbances by the SELVA machine (requested by Ruben).

• Meeting Topics

- 1) Action items from the previous week
- 2) Status of the tension control system
- 3) Preparations for lowering the bridge
- 4) Status of the mandrel synchronization
- 5) Status of requisitions
- 6) Safety, ideas, comments, etc. (all)

• Safety

Everybody make sure to sign the modified HA in IB3.

- **Problems**

- The tension regulation seems to be a problem that may need more time to solve correctly.
- Testing bridge acceleration and speed regulation will require extra efforts.

- **Action Items**

Jim Rife, Rick Smith, etc.

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

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Fred Lewis

Switch over to the new ETS system	TBD when	7/29/2014
Ensure we have replacement encoders for future use	7/15 Will be ordered: an X drive a/e	5/27/2014
Review the requisition for a new driver – get the newest version they have of 242	7/15: back in queue after driver hold	7/1/2014
Work on 2 nd interface board, which will be the production model		7/15/2014

Lidija

Reinstall winch	cancelled	7/15/2014
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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	Investigate the control of acceleration and speed for bridge.	7/15/2014
Work on adjusting the tension driver	Test the possibility to adjust the integration term in the driver personality card for tension	8/5/2014

Jerzy

Tension control	Investigate a fuzzy logic control for	8/5/14
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		tension	
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Roger

	Document reel up/down algorithm	In progress	7/23/2014
	Test motion control of the tension motor.	Re-assigned	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		7/8/14
	Implement the new tension control algorithm	In progress	7/23/14

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
	Work on replacement collision sensors for the boom.	Contact the supplier and discuss our needs.	7/29/14
	Install new tubing	Dana will install tubing on the boom, starting on Friday if he is here. Postponed 8/5/14 until the decision to buy new bumper sensors is made.	7/15/2014
	Mandrel test plan	7/15: waiting on Sergey	6/10/14
	Level Mandrel	Check if we need another surface	8/5/2014

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
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- Completed Action Items

Fred	Repair the existing damaged encoder	Parts are in. Should be complete week of 7/15	7/29/2014
Fred	Install safety system improvements if panel is complete	7/15 : back in queue after driver hold 7/22 basically ready to install. Will start Friday afternoon and continue in to Saturday	7/29/2014
Dana	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 7/22: Sensing edges were to be shipped on the 18'th, and should be here this week. (note: after the meeting Dana was informed that they were in IB4. He got them and to them to Fred L.)	7/29/14
Roger	Document tension control test plan	Documentation is complete, execution suspended on mechanical work; In progress	7/29/2014