

SELVA Meeting 08/19/2014

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

• Project Status

- **The highest priority: the tension control system; calibration of Boom and Mandrel are pending, but can be done at any time.**
- Bridge:
 - Rick Smith adjusted the bridge belt and put WD40 on the rubber to eliminate squeaking. We will need to clean it.
 - Bridge: need to work on adjusting and testing end switches.
- Mandrel:
 - Must be calibrated. Flat surface may be needed to put a mini level on (f something must be created, talk to Terry).
- Boom:
 - Needs to be calibrated.
- Reel:
 - Needs to be calibrated and integrated with the tension control.
- Tension:
 - Tension components to repair the original board still not all delivered, but probably today or tomorrow. We need the parts for the draft card as soon as they are delivered.
 - Testing two approaches: torque-based control, and speed-based control.
- Software:
 - Startup questions clarified. Waiting for the LabVIEW code to be tested and verified.
- Meeting to discuss IB3 power held earlier today. Discussion of upcoming power situation and how to prevent damage to the electronics due to power fluctuations. We need to write a proposal for improvements.
- Electronics:
 - Found a replacement encoder for tension and ordered it 5 days ago.
 - Driver boards: compared 30A and 60A. Found no difference in components. Added higher current transistors to 30A board. Tried to test, but did not know which personality card to use. We have transistors to modify 5 boards
 - Significant progress was made updating the drawings (50-70 drawings). Need Andrzej to sign off.
 - High current card (found on eBay), order was given to Katie. Check the order status.
 - Waiting for parts for the load cells power stabilization and the draft card.

- Meeting Topics

- 1) Action items from the previous week
- 2) Status of the tension control system
- 3) Status of other activities.
- 3) Status of requisitions
- 4) Safety, ideas, comments, etc. (all)

- Safety

- Everybody make sure to sign the modified HA in IB3.
- Bumpers cost total ~\$1200. We should order them. They suggest they do the kerf cut and send one for evaluation; if it doesn't work, they will work with us. Cost ~\$200

- Problems

- The long delay in receiving the parts ordered for the load cells power stabilization due to processing the order at Fermilab.

- 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
Install the load cells power stabilizer circuit		8/19/14

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
	Review electrical drawings		8/19/14
	Try to repair the draft card		8/19/14

Jerzy

	Create a model of the tension		8/19/14
	Tension control	Investigate a fuzzy logic control for tension – suspended 8/19/14 – investigate the feed forward and torque based control	8/5/14

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

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	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

• Completed Action Items

	Sergey, Jerzy, Andrzej	After wiring has been okayed and trenches are covered, then inspect the area for small objects and have them removed		8/19/14
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