SELVA Meeting 07/29/2014

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

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- Project Status
  - **The highest priority: the tension system, followed by the reel control system and motor synchronization.**
  - Reel Up/down: missing the initial state check, put into FPGA, manual operation needs to be tested, check on exception handling. Probably the real-time version may be used for the winding test.
  - Tension: test the FPGA version today or tomorrow. Constant tension with zero speed first, then constant speed, then vary speed (slowly). Dc-to-DC converter will be installed for the load cells power as soon as we receive the parts.
  - Mandrel: work on the hardware speed adjustment for V drive.
  - Bridge: work on smooth and limited acceleration and deceleration. The maximum speed also needs to be increased. Try hardware (personality card adjustments) and software limitation of the acceleration..
  - Boom: It does move. Work on acceleration/deceleration limiting, similarly to Bridge.
  - Broken encoder is repaired. Roger will test it, when the machine is available. Not a high priority right now.
  - ETS: 90% installed (new cables installed, bumpers installed, door switches). Then we need to decide when to switch to the new system- we will wait until we know the status of tension and motion is under control. We may need an electrical work permit.
  - Interface board is being worked on.
  - Electrical drawings are under way – ETS, external from interface box, inside the interface box.
  - The Start button functionality will be implemented after the winding test.
  - Requisitions:
    - DC to DC converters ordering needs to be put thru : Fred
    - Dana will work on getting a cost estimate for replacement bumper strips. Will need to provide drawings to the company
    - A list of parts for ordering for the interface board is being created (we are finding parts we already have).
    - 242 board – currently trying to locate a company that provides the board. One company has been found that might be able to repair it. For spare 242 boards: one board is definitely dead, another possibly works. Working on modifying a 241 board to work as a 242.
    - Working on ordering an angular encoder for X axis.

• Meeting Topics

1) Action items from the previous week
2) Status of the tension control system
3) Implementation of the machine "start" button functionality (Andrzej, Jerzy)
4) Implementation of the improvements to the safety system (Fred L.)
5) Status of requisitions
6) Safety, ideas, comments, etc. (all)

• Safety

Everybody make sure to sign the modified HA in IB3.

• Problems

- The tension control implementation seems to be not trivial and may take time to be solved in a satisfactory way, which may impact our tentative schedule.

• 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

Fred Nobrega

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 2nd interface board, which will be the production model		7/15/2014

Lidija

	Reinstall winch		7/15/2014

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

Roger

	Document reel up/down algorithm	In progress	7/23/2014
	Test motion control of the tension motor.		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.	7/15/2014
	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

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
	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	7/29/14

			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.)	
	Roger	Document tension control test plan	Documentation is complete, execution suspended on mechanical work; In progress	7/29/2014