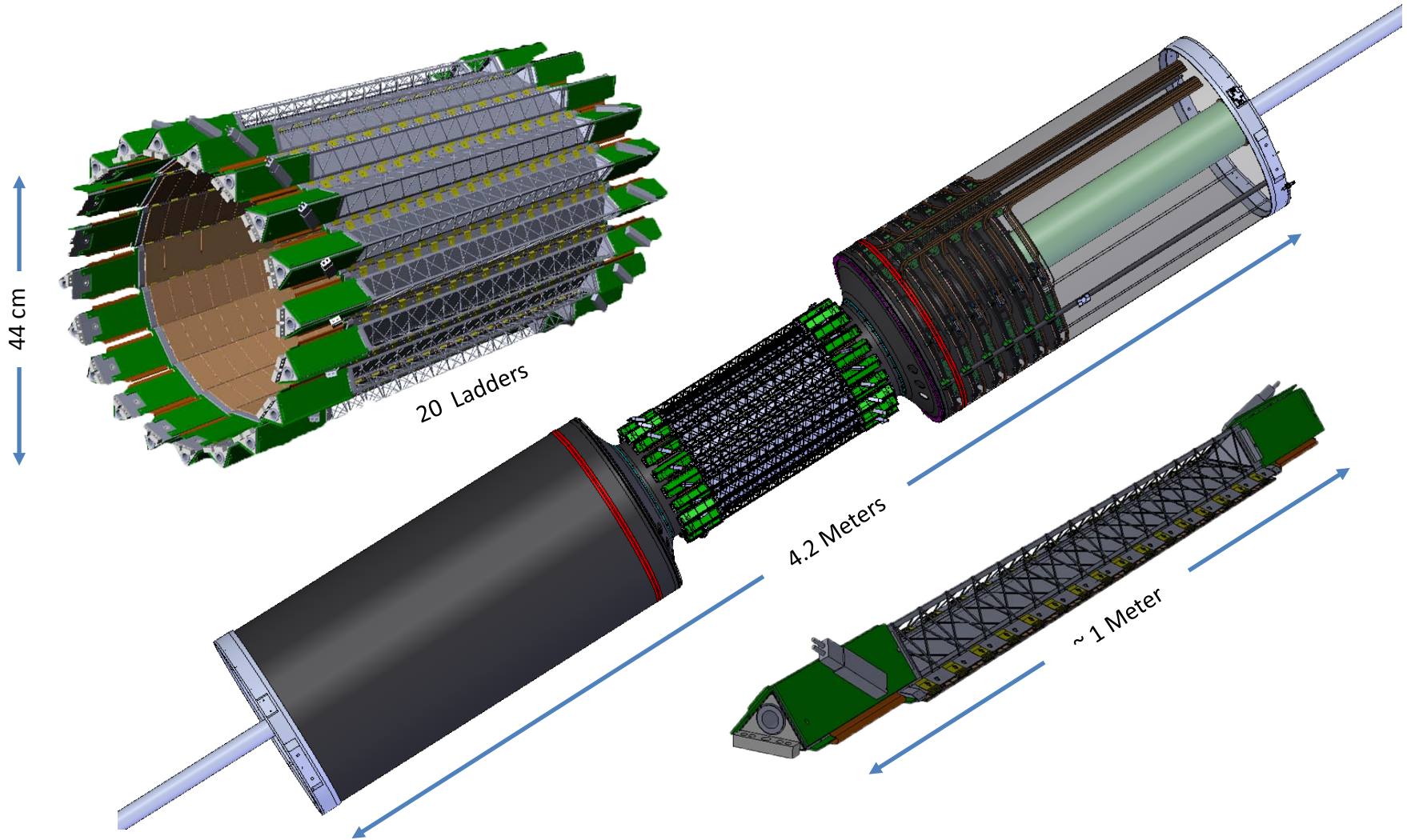


Face 2 Face with the SSD



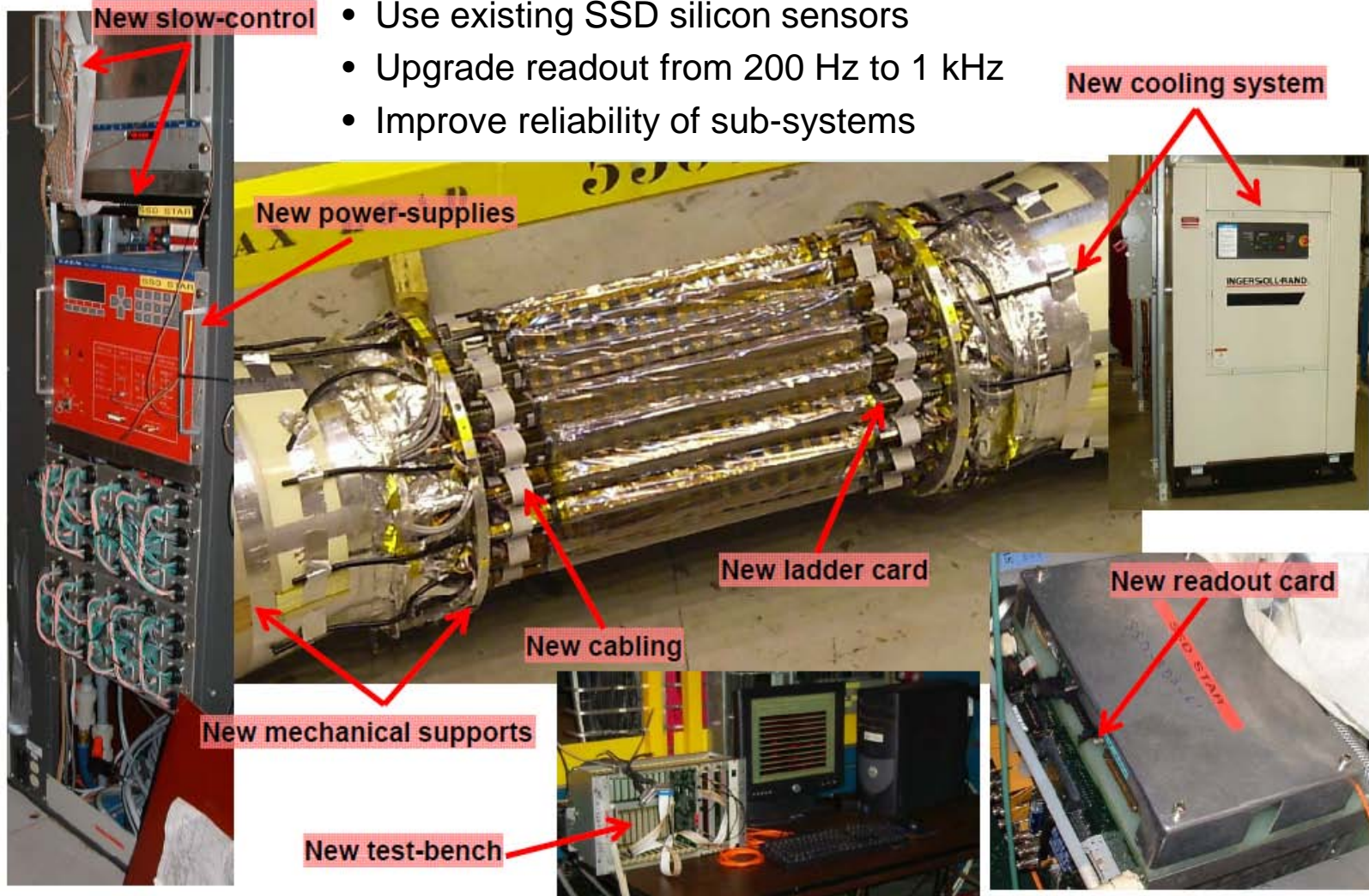
- Flemming's view of SSD status... exactly right

- SSD
 - Ladder Cards and readout well underway.
 - Watching the Nantes connection (sub-contracts delay and hurdles).

Modifications Needed for the SSD Upgrade



- Use existing SSD silicon sensors
- Upgrade readout from 200 Hz to 1 kHz
- Improve reliability of sub-systems

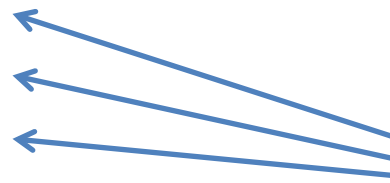


C. Renard

SSD WBS

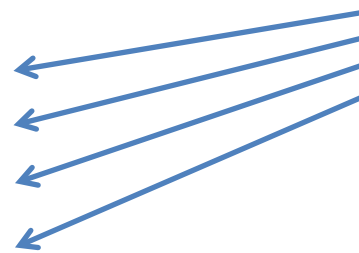


- 1.4.1 Mechanics
- 1.4.2 Electronics
 - 1.4.2.1 Ladder Board
 - 1.4.2.2 RDO Board
 - 1.4.2.3 DAQ Board
- 1.4.3 Detector Assembly
 - 1.4.3.1 Survey
 - 1.4.3.2 OSC Assembly
- 1.4.4 Infrastructure
 - 1.4.4.1 Cables
 - 1.4.4.2 Power Supply
 - 1.4.4.3 Cooling
 - 1.4.4.4 Slow Controls
 - 1.4.4.5 FPGA Software



WBS needs an update
will work with SM to
bring up to date

Excellent progress on
LB & QRDO prototype
boards – see MJL, CR



Time to get serious
about conventional
systems – both
engineering and
procurement

Contract with Subatech/Nantes



- MOU signed
- Technical Proposal agreed upon and signed
- Contract is working its way through BNL procurement
 - The road to Subatech goes through Paris
 - ARMINES is an foundation in Paris that will be channeling the money through to Nantes
 - Currently BNL and ARMINES do not agree on contract language ... hopefully they can come to an agreement fairly soon
- Work on re-routing the LB is delayed until contract is in place – this is our critical path



June 9th 2011


Dr. Flemming Videbaek
c/o Elizabeth Mogavero
Brookhaven National Laboratory
Physics Department, Building 510A
Upton, NY 11973-5000

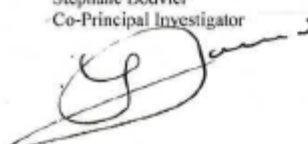
Dear Dr. Videbaek

This letter is to inform you that ARMINES (SUBATECH), will perform the STAR SSD Readout Upgrade and Ladder Board Update, as described in the accompanying proposal. The upgrade effort will provide the layout for a new electronics board and a full set of fabrication files to the fabrication facility of your choice.

Sincerely yours,


Philippe LEBOZEC
ARMINES, Deputy Director


Bernd Grambow
SUBATECH, Manager, Grants and Contracts


Stephane Bouvier
Co-Principal Investigator


Christophe Renard
Principal Investigator

Conventional System News & Future Activities



- Procurement
 - Order first batch of Power Supplies and modules for test
 - Prototype cooling system components (instrumentation)
- Engineering
 - Cu-Clad Al cable design & test
 - LB interface card for cables
 - Cable and cooling routing
- News
 - Student arriving in Oct with mandate to work on SlowC

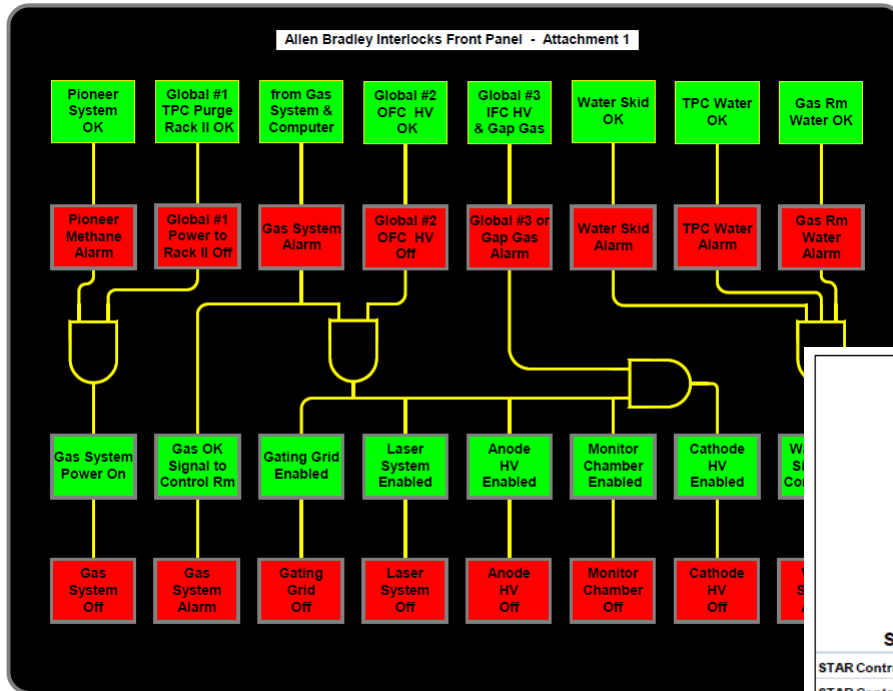


Interlocks (not just for SSD)

- STAR has two sets of safety interlock systems
 - STAR Global Interlock System: for human safety ... maintained by CAD
 - TPC Interlock system: Detector integrity and safety ... maintained by STAR
This system was expanded to eventually cover all STAR detectors
- The two systems inter-communicate
 - SGIS has priority
- The combination of the two systems allow us to respond to a wide variety of stimuli
 - Electrical, Fire, Water, Gas

See: [STAR HomePage => Experiment => SubSystems => TPC](#) then navigate to
Operations => TPC Interlock Manual
=> TPC Diagrams (e.g. pg 2)
=> TPC Interlock Wiring Diagrams (e.g. pg '54')

“IFC OK to run” and “OFC OK to run”



OFC OK to Run:
 High Level Methane
 High Level Smoke
 Water Leak

IFC OK to Run:
 High Level Methane
 High Level Smoke
 Water Leak
 IFC Air (on)

Sub-System	Global Interlocks #1 TPC Purge	High Level Methane	High Level Smoke (Delayed)	Global Interlocks #2 OFC OK to Run	High Level Methane	High Level Smoke (Prompt)	Detector Water Leaks	Global Interlocks #3 IFC OK to Run	High Level Methane	High Level Smoke (Prompt)	Detector Water Leaks	IFC Air Flow	Global Interlocks #4 Detector Water Leaks	Pioneer Gas Alarm - Methane in Gas Rm	Gas System Fault & Computer Status	Gas Room Water Leak	Gas Room Water Flow	TPC E&W Face Water Flow	OFC Water Flow	Methane in TPC Insulator Gap	Oxygen in TPC Insulator Gap	Water Skid Flow	Water Skid pH	Water Skid Oxygen Level	Water Skid Temperature	ODH Status	UPS Status	MCW Temperature	
STAR Control Room - Water Alarm				X				X					X			X	X	X	X			X							
STAR Control Room - Gas Alarm	X	X		X	X	X		X	X					X	X														
TPC Water Valves Close				X						X								X	X			X							
Gas Rm Water Valves Close																X	X												
Power to TPC Gas System	X	X		X	X			X	X					X															
TPC Gating Grid	X	X		X	X	X		X	X	X			X	X	X														
TPC Anode	X	X		X	X	X		X	X	X			X	X	X														
TPC Cathode	X	X		X	X	X		X	X	X			X	X	X						X	X							
TPC Monitor Chamber	X	X		X	X	X		X	X	X			X	X	X														
Laser	X	X		X	X	X		X	X	X			X	X	X														
RICH	X	X		X	X	X		X	X	X			X	X															
FEE, MWC, TOFp & pVPD Electronics	X	X		X	X	X		X	X	X			X					X	X			X							
SVT & FTPC Electronics	X	X		X	X	X		X	X	X			X					X	X			X							
EMC & SMD Electronics	X	X		X	X	X		X	X	X			X																
SVT & FTPC Water						X				X			X																
Slow Controls	X	X		X	X	X		X	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Summary



- The SSD is making moving forward
- Ladder Board and RDO board are making excellent progress
- Contract with Subatech is nearly in place
- Next step is to increase the activity on the conventional systems and improve management and tracking of the SSd sub-system
- Existing interlock system provides contact closure upon a reasonable set of diagnostics for detectors inside the IFC
 - The system can be upgraded but is probably sufficient for anything we will do with the HFT or FGT
 - Thus, the message to the HFT sub-systems is to expect your permissive to be pulled upon Fire, Water, Gas or Air ... and design your systems to act upon this (single) signal.