

Service Coordination Board (SCB) Meeting Summary

Date: 19 August 2015

Members in attendance:

	Member	In Attendance
AES	John Maclean	√
	Geoff Pile	
ASD	Ju Wang	
	Ali Nassiri	√
XSD	Mark Beno	√
	Chris Jacobsen	
	Jonathan Lang	
Upgrade Project	Tom Fornek	*
	Mohan Ramanathan	√

*Chuck Prokuski - for Tom Fornek

Also in attendance: Steve Davey, John Grimmer, Nancy Grossman, Kelly Jaje, and George Srajer

This report can be accessed through the following link: [APS_168772](#)

Agenda

- I) Review of Meeting Minutes
- II) Review of Open Action Items
- III) Status of Projects
- IV) Other/New Business
 - . Hand-off to operations checklist

Next Meeting

Meetings terminated

New Action Items

1. Action Item (John Grimmer): Provide copy of presentation slides for inclusion with meeting minutes.
Done

Meeting Summary

Jaje distributed:

- 1) Meeting Agenda
- 2) Draft minutes form the 22 July 2015 meeting ([APS_1687314](#))
- 3) APS Project Report Summary - May 2015 ([APS_1442081](#), rev. 28)
- 4) APS Project Resource Summary- May 2015 ([APS_1432632`](#), rev.54)
- 5) APS Project Report Summary Comment - May 2015 ([APS_1440691](#), rev 28)

I) Review of Meeting Minutes

22 July 2015 meeting summary. Minutes accepted without corrections or amendments.

II) Review of Open Action Items

1. Action item (Maclean): Invite Grimmer to review estimating experience for SCU-1 (P-2253, [APS_1445357](#)).
Done – Grimmer made presentation at August SCB meeting.
2. Action Item (Maclean): Address WBS and cost code change process/issues with Markiewicz and Grossman.
Done - Automated requests for a WBS number being implemented to 1st level CAM and then to WBS change control board and Markiewicz. Maclean: per Markiewicz, Lab systems can be updated overnight.
3. Action Item (Davey): Close out XSD NSLS BNL TXM Installation into 8BM (P-2633) - 100% complete.
Done

III) Status of Projects

Jaje report on the status of projects was provided to the Board (APS Project Report Summary Comment - July 2015 ([APS_1440691](#), rev 28).

APS Integrated Management System (AIMS) (P-2055) Grossman and Leatherman have developed a draft requirements document to help define the needed tools. System will be based on the Lab's *Service Now* tool. Will need a couple of months to complete.

IV) Other/New Business

SCB Terminated

George Srajer:

This is the last SCB meeting - the SCB is being replaced with the Resource Evaluation Group (REG). Srajer thanked the group for four years of hard work.

New method: There will be a small core group with a larger support group of subject matter experts and a group of integration experts. Key interaction: work as a facility. Grossman will take over as the chair of the REG. Srajer to send out charter.

Following DOE review-finding that identified the opportunity for improvement, the SCB has done "a Herculean" – taking on responsibilities and blame. Now work will be done in unison with senior APS management team.

A more disciplined approach will be implemented, importing the best practices from the SCB.

Lessons Learned from the SCU-1 Installation Project

Project Manager Grimmer presented a lessons-learned talk: "Installation of SCU-1 into Sector 1, Analysis of Estimated vs. Actual Hours – presentation slides attached.

Grimmer: the project was estimated to need 1444 hours of effort, actual effort was carefully tracked, and the actual effort required was approximately 8330 hours. This project was recognized as a high priority for senior management and would have expect approval even for the higher level of effort.

An active discussion ensued and it was generally agreed that it was an excellent case study for lessons learned in project management.

Hand-off to Operations

Deferred to others.

Next Meeting: SCB terminated

Attachment: Grimmer 19 August 2015 presentation to the SCB



Installation of SCU-1 into Sector 1

Analysis of Estimated vs. Actual Hours

SCB Project #2253

John Grimmer
 System Manager, Insertion Devices
 Accelerator Systems Division/Magnetic Devices Group



Let's Start at the End:



	Total Hrs. Planned	Actual Hours Provided to Date
Designer	240	748.3
MED Eng	104	448.8
MED SA Eng	18	672.0
MOM-Eng	182	337.0
MOM-Tech	600	1039.0
		037.0
ASD MD Physicist	40	3157.0
ASD MD Eng	72	1080.0
ASD MD Tech	100	1080.0
ASD PS Tech	80	0.0
		290.3
Totals	1444	8329.5

- SCU1 was successfully installed in Sector 1 in April/May of 2015 and has operated as designed this entire run; a new benchmark for superconducting undulator length (1.1 m) has been established.
- Several obstacles were overcome in facilitating the original installation, restoring the Sector 1 configuration when a vacuum leak developed in January, and in reworking/reinstalling SCU1 in April.
- Several "lessons learned" have provided a better recipe for building/installing future SCUs.
- The efforts from support groups were exemplary; there was efficient coordination of those efforts within the groups and between ASD-MD and those groups.
- The effort on this project totaled almost 6X the original estimate.

Really. 6X. Six Times! How'd That Happen?

	Total Hrs. Planned	Actual Hours Provided to Date	Prep Hours Needed	Installation Hrs. Needed	Actual as % of Plan	Main factors in overrun
Designer	240	746.3	240		310.96%	Changed IDV, Raytracing
MED Eng	104	448.8	104		431.54%	Redesign transitions; chamber fab
MED SA Eng	16	672.0		16	4200.00%	Pre-shutdown work not scoped
MOM-Eng	192	337.6	192		175.78%	Chamber fabrication
MOM-Tech	600	1039.5	480			
		537.0	40	140	173.25%	Chamber fabrication
ASD MD Physicist	40				1342.50%	Prep and rework of SCU1 not scoped
ASD MD Eng	72	3157.0		72	4384.72%	Prep and rework of SCU1 not scoped
ASD MD Tech	100	1095.5	80	20	1095.50%	Prep and rework of SCU1 not scoped
ASD PS Tech	80	0.0		80	0.00%	Some work not charged
		296.3				Forensic work not scoped
Totals	1444	9329.9	1,116	328	576.89%	

- A "half-length" ID vacuum chamber from inventory was used; this forced redesign of the transition assembly and meant that the raytracing from SCU0 did not directly apply.
- Numerous issues were encountered in fabricating the vacuum chamber internal to SCU1 prior to the original installation; even the original work was not within this project scope. (Preinstallation)
- There was a project to build the prototype SCU and cryostat used for SCU1 and there was not a clear dividing line between that project and #2253. (Project #1153; ended in September/October 2014)
- Considerable work on preparing and testing SCU1 within the ASD-MD group itself was not scoped.
- The removal, internal SCU vacuum chamber rework, all preparation and testing prior to reinstallation was not scoped.
- No project replan was done until the reinstallation work (441 actual vs. 380 planned; 16% overrun).

A Different Look- by Project Phase.



- Project #1153 has ended by September- only 40 more hours charged in October.
- The monthly burn rate on Project #2253 is close to the total estimated for the whole project for 4 months, spanning completion/certification of SCU1, installation and removal.
- I regarded accurately capturing the effort on this project as a priority, but did not regard replanning that effort as a priority, partly because I didn't create the original plan, but primarily because:
- The day-to-day management of this project: technical, schedule, M&S budget (FY14 vs. FY 15, in particular) issues, technical reviews, definition of acceptable criteria for technical analysis and review, approval of the installation, definition of the criteria for approval, etc. **was already taking considerably more time than I had available** due to other projects (1.72-cm period IDs, revolver undulator).

Lessons Learned/Recommendations for SCB Projects

- Clear definition of the project scope and identification of the project manager and resources required **before the project begins**.
- Recognition that project management isn't done in anyone's **spare time**; what are the expectations of the role going forward?
- Not every interaction at the APS can be handled **as part of a freestanding project**: engineering standards, the sequence of the design process, physics requirements, who approves what, etc. need to be maintained/managed independently of the project apparatus.
- Better identification of **what an SCB project is**, i.e. only if AES resources are needed; should effort within the "sponsoring" group even be scoped/tracked?
- Are we actively managing only a subset of our activities (what I call squeezing the balloon) or all of them?



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