Q&A Log for DOE/SC Review of NEXT, August 30-31, 2016

From: Ben Feinberg <b_feinberg@lbl.gov>
Sent: Friday, August 19, 2016 8:38 PM
To: Hulbert, Steven
Cc: Kin Chao
Subject: Re: DOE/SC Review of NEXT, Aug 30-31, 2016

Hi Steve,
The Management committee has the following questions / comments:

- Does the project have a lessons learned document or a draft? If so, please post, if not, when is this planned to be drafted?
- Does the project have a Project Closeout Report document or a draft? If so, please post, if not, when is this planned to be drafted?
- Is the project expecting any contract claims—if so, how much?
- If the project does have the approval to execute the project enhancement activities, is the expected completion date still January 2017—if not, what is the new expected CD-4 date?
- What is the status of project closeout activities (finalizing documents, financial closeouts, moving people out, etc.)?
- Briefly present the process for handing a beam line over to NSLS-II Operations, explaining how Operations receives the necessary information to commence and complete commissioning.
- As part of #1, please provide an example of a Documentation Package for System Completion and Turnover, listed in the Configuration Management Plan (or equivalent method).
- The June 2016 Project Monthly Report link appears to be broken.

Thanks.
Regards, Ben

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22 August 2016

1. Does the project have a lessons learned document or a draft? If so, please post, if not, when is this planned to be drafted?

Yes, a draft Lessons Learned document for NEXT was created in September 2014, in advance of CD-3 as required by DOE 413.3b. The draft document has been posted on the review site.

Keep in mind that the lessons learned at the time this draft was written included a common theme related to schedule problems with procurements. As we have shown you at the CD-3 and subsequent reviews, much progress has been made on this issue, within NEXT as well as within NSLS-II and at the BNL lab level. This progress will be reflected in the final Lessons Learned document, as well as lessons learned regarding: (i) improvements to the accrual accounting process, (ii) improvements in developing the monthly ETC, (iii) management of contractors, and (iv) lessons to be learned during project closeout.

The final NEXT Lessons Learned document will be completed early in 2017 for project closeout.

2. Does the project have a Project Closeout Report document or a draft? If so, please post, if not, when is this planned to be drafted?

We have not yet drafted the Project Closeout Report for NEXT. It will be drafted by January 2017 and will follow a format similar to that used to close out the NSLS-II Project.

3. Is the project expecting any contract claims—if so, how much?

No, we have not received and do not expect to receive any claims from contractors for any NEXT procurement contracts.

4. If the project does have the approval to execute the project enhancement activities, is the expected completion date still January 2017—if not, what is the new expected CD-4 date?

From the NEXT project perspective, the status regarding potential addition of project enhancement activities is as follows:

-- We expect to complete all technical scope by 31-Jan-2017, the current NEXT Early Project Completion milestone date. The schedule float from this milestone to the 30-Sep-2017 CD-4 milestone date is 8 months.

-- We do not have the approval to execute scope enhancement activities at this time.

-- We are making plans to execute scope enhancement activities, should project performance warrant their addition. If approval to proceed with these activities is received, we expect to be able to complete 80% of the identified high priority scope enhancement activities within 4 months and 100% within 6 months.

-- If we receive authority to add scope as late as January 2017, even the longest lead time scope enhancements can be completed before the CD-4 date (30-Sep-2017).

5. What is the status of project closeout activities (finalizing documents, financial closeouts, moving people out, etc.)?

All documents required prior to CD-4 will be at least in draft by January 2017. The complete list of documents, to be final at project closeout, are listed in the table below.

Requirement	***Status/Comments***
Verify achievement of KPP's	*Beamline IRRs, flux KPP measurements, scope verification*
Readiness to Operate review	*Memo from ES&H, approval from NSLS-II Director*
Transition to Operations Plan	*NEXT TOP: controlled document posted for this review*
Conduct an IPR	*OPA – TBD*
Finalize HAR	*NEXT HAR (LT-C-ESH-RPT-001, version 2, June 2013)*
Revise EMS	*NEPA review of NEXT, April 2011*
Draft Project Closeout Report	*Draft in Progress*
Finalize in PARS II	*FPD w/Project support – After CD-4*
Final administrative closeout	*Detailed planning under way – complete as soon as possible after CD-4*
Lessons Learned Document	*Draft prepared – finalize after CD-4*
Final Project Closeout Report	*FPD w/Project support – finalize after CD-4*

Major Procurement Contracts: NEXT project management is working with NSLS-II procurement to close major procurement contracts as soon as all scope is completed, including final reports.

Scope Verification Process: The initial steps of the NEXT scope verification and closeout acknowledgment processes have begun.

Transition of staff off NEXT Project: The transition of staff from NEXT to Operations has begun. Most of the staff charging NEXT are matrixed from the NSLS-II operating organization and will cease charging NEXT when the project scope that they are providing is complete. This applies to staff who will be dedicated partially or fully to operation of NEXT beamlines, including scientific, engineering, design, and controls staff. These staff start charging part of their time to operations as soon as operations begin, defined as the first light date (3 of the 5 NEXT beamlines are taking light as of August 2016).

6. Briefly present the process for handing a beam line over to NSLS-II Operations, explaining how Operations receives the necessary information to commence and complete commissioning.

The Transition to Operations Plan, posted for this review, describes this process in detail.

Following successful completion of a beamline's IRR and closure of any pre-start findings, approval to begin commissioning is granted by the NSLS-II Director. NSLS-II Operations is responsible for commissioning activities, as well as subsequent science commissioning activities and general user operations. One of the first commissioning activities consists of flux measurement at an endstation position. Measurement of a flux value that meets or exceeds the threshold value is a prerequisite to long term acceptance of the beamline by NSLS-II Operations. The NEXT project is responsible for repair of any component or configuration problem that prevents achievement of the threshold flux value for that beamline.

NSLS-II Operations has access to all technical information generated in the development of the NEXT beamlines, including design reports, checklists, travelers, certification and acceptance test reports, and design drawings. All documentation generated for IRR, which includes the Technical Science Commissioning Plan, is also available to NSLS-II Operations.

7. As part of #6, please provide an example of a Documentation Package for System Completion and Turnover, listed in the Configuration Management Plan (or equivalent method).

The documentation of NEXT project completion and turnover to NSLS-II operations includes:
(1) IRR documentation. See https://www.bnl.gov/nsls2/project/reviews/160324_IRR-ISS/ for ISS IRR documentation and https://www.bnl.gov/nsls2/project/reviews/160628_IRR-ISR-XFP-ESM/ for ISR and ESM IRR documentation (login nsls2team, password bnl725&745);
(2) Memo from ESH Manager to NSLS-II Director recommending authorization to commence beamline commissioning at a specific beamline, and corresponding authorization from the NSLS-II Director;
(3) NEXT closeout acknowledgment form, at the Control Account level, to be accompanied by the WBS Dictionary and Work Authorization Document for that Control Account.

8. The June 2016 Project Monthly Report link appears to be broken.

This link has been repaired.

From: Hulbert, Steven
To: "Ian McNulty"; McNulty,Ian (ANL); Webb,Sam (SLAC)
Cc: Keister, Jeffrey; Johnson, Erik D; Adams, Julian; Lee, Wah-Keat (wklee@bnl.gov)
Subject: RE: REMINDER: DOE/SC Status Review of the NEXT Project (BNL), August 30-31, 2016
Date: Thursday, August 25, 2016 10:12:00 PM
Attachments: FXI Beamline Status Summary 25 Aug 16.docx

Ian, Sam—
A short document describing FXI scope and progress is attached. It was prepared by Julian Adams (BDN Project) and Erik Johnson (oversees all projects). Wah-Keat is out this week, back next week, and can provide any further detail regarding FXI during the subcommittee breakout sessions.
Steve

From: Ian McNulty [mailto:mcnulty@anl.gov]
Sent: Wednesday, August 24, 2016 7:13 PM
To: Hulbert, Steven; McNulty,Ian (ANL); Webb,Sam (SLAC)
Cc: Keister, Jeffrey; Johnson, Erik D; Lee, Wah-Keat
Subject: Re: REMINDER: DOE/SC Status Review of the NEXT Project (BNL), August 30-31, 2016

Steve,

Thanks much for the update.
It will be good to meet with Wah-Keat on Tuesday.
The one additional thing I can think of that would be useful to
have on hand is a brief but specific summary of the items
that have been accomplished to complete the FXI scope. Could
this be made available in the form of a few ppt slides or short document?

Best, Ian

On 8/22/16 11:44, Hulbert, Steven wrote:

> Ian—
> Following from the reminder from Casey, just sent, I want to reach out to you regarding the subcommittee that you lead, titled "SC3, FXI and ISS." As you are probably aware, the scope of FXI within the NEXT project consists of all design activities and fabrication of the shielded enclosures (hutches). All of this scope is now complete.
> The scope remaining to complete FXI is included as a Level 2 WBS element in the BDN (Beamlines Developed by NSLS-II) project at NSLS-II.
> I mention this background so that we can prepare properly for the review next week, in particular regarding review of FXI scope. We know that FXI is included in the title of your subcommittee and an FXI slide is included in the template for the review closeout slides (ESPRES NEXT) just sent by Casey.
> So far, I have requested that Wah-Keat be available to meet with your subcommittee during the breakout session on Tuesday afternoon, Aug. 30. Besides having him confirm that all FXI scope for NEXT is complete, do you foresee requesting additional material regarding FXI for the purposes of next week's review of NEXT?

We're looking forward to seeing you, and your subcommittee member Sam Webb, here next week!
Steve

From: SC-28 OPA [mailto:SC-28.OPA@science.doe.gov]
Sent: Monday, August 22, 2016 12:20 PM
To: Chao, Kin; Ben Feinberg (b_feinberg@lbl.gov); Zahid Hussain; dhlu@slac.stanford.edu; Ian McNulty (mcnulty@anl.gov); Meador, Stephen; Peoples-Evans, Elmie A.; prossi@aps.anl.gov; wolfgang@nrixs.net; Thibadeau, Barbara M; wangj@aps.anl.gov; samwebb@slac.stanford.edu
Cc: Kung, Harriet; Kraushaar, Philip; Lee, Peter; Murphy, James; Smith, Wanda; Cerrone, Linda; Meneses, Rocio; Crescenzo, Frank (BHSO); Caradonna, Robert (BHSO); Hulbert, Steven; Morello, Eileen; Wetzel, Christina A. (CONTR)
Subject: REMINDER: DOE/SC Status Review of the NEXT Project (BNL), August 30-31, 2016

Dear Review Committee Member:

This is a reminder that the DOE/SC review of the NSLS-II Experimental Tools (NEXT) project at Brookhaven National Laboratory (BNL) will begin with a DOE Executive Session on Tuesday, August 30, at 8:00 a.m. in Building 703, in the Large Conference Room.

Review information may be accessed at:
https://www.bnl.gov/nsls2/project/reviews/160830_NEXT_DOE_Review/
password: NEXT0830&3116

Also attached for your information and use is an updated committee list and writing assignment list; and the Executive Session presentation and template that should be used in the preparation of the project's Closeout Report.

If you have not already done so, I would like the chairperson of each subcommittee, after conferring with the members of his/her subcommittee, to provide a list of issues and/or questions that need to be addressed to Steven Hulbert (631-344-7570; Hulbert@bnl.gov).

Again, I would like to express my appreciation for your willingness to serve on this committee. Should you have any questions, please contact Kin Chao (301-903-4116; kin.chao@science.doe.gov) or Casey Clark (301-903-5451; casey.clark@science.doe.gov).

Stephen W. Meador
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FXI Beamline Status Summary - 25 August 2016

Julian Adams – BDN Portfolio manager.

The initial work for the design of the FXI beamline was completed as planned under the NEXT project. Completion of the beamline is being undertaken with NSLS-II operations funds managed as a component of the Beamlines Developed by NSLS-II portfolio. As presently scheduled, the beamline would undergo its Instrument Readiness Review in November 2017.

The major components of the project (by WBS) with narrative descriptions are provided below.

Project	WBS	EAC	% complete	detail
NEXT	2.06 FXI Beamline	$ 1,793,425	100%	management, design, hutches
BDN	6.13.01 FXI Beamline Management	$ 892,924	27%	management
BDN	6.13.02 FXI Design	$ 132,178	37%	design
BDN	6.13.03 FXI Construction	$ 4,356,011	17%	PDS, ES
BDN	6.13.04 FXI Beamline Infrastructure	$ 999,761	10%	utilities, EPS, PPS
BDN	6.13.05 FXI Accelerator Infrastructure	$ 891,036	0%	front end
BDN	6.13.06 FXI Controls	$ 652,326	7%	controls

Beamline Management -

Standard LOE activity running out through completion of the beamline in early FY18.

FXI Design-

The entire beamline was designed under NEXT through the specification of the optical systems and overall layout. The design activities under BDN include detailed design of the utilities and the new TXM (which was not part of the NEXT based scope).

FXI Construction-

NEXT contingency paid for construction of the hutches (which is complete). BDN has ordered the PDS which has undergone PDR and FDR with FAT starting in Sept 2016. Construction of an entirely new TXM instrument has been included in the scope of the BDN project.

FXI Beamline Infrastructure -

Utilities, PPS and EPS. Utilities are currently ~50% complete, PPS is roughly 20% complete and work on the EPS has not yet started.

FXI Accelerator Infrastructure-

Front end fabrication, procurement and installation. Slit bodies, masks and ratchet wall collimator to be fabricated. Slit stages, Photon Shutters, Safety shutters, and vacuum hardware is in hand, (roughly $300K of material) from NSLS-II project (future beamline affordances). BDN work scheduled to start on 1 Oct 2016 and is at 0% complete, but overall with the material on hand the front end is roughly 25% complete at this point.

FXI Controls-

Some hardware (about $150K) with the balance in labor. This is the basic beamlines control system as well as the controls for the microscope along with some DAMA (Data Acquisition, Management, and Analysis) work.