

Report from the Project Manager

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USQCD All-Hand's Meeting
Thomas Jefferson National Accelerator Facility
April 18-19, 2014

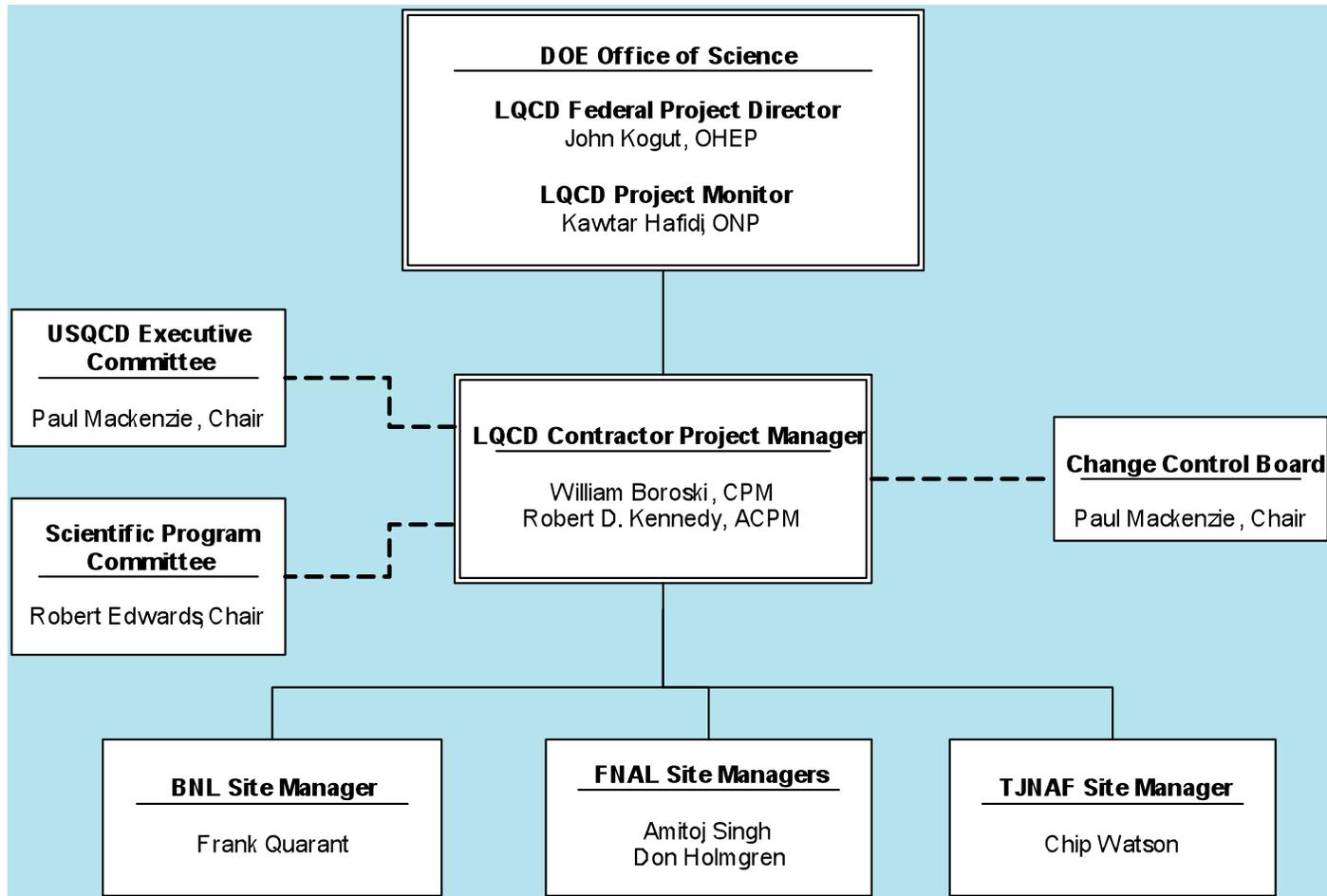
Outline

- ▶ Project update
- ▶ Project performance
- ▶ User survey results
- ▶ LQCD-ext II planning
- ▶ Summary

Project Update

- ▶ We're in the last year of the currently-funded project (LQCD-ext: FY10-14; TPC (i.e., budget)=\$18.5 million).
- ▶ Operations at the three sites are running smoothly.
- ▶ FY14 hardware acquisition is underway
 - Acquisition activities delayed by availability of funds; we are only now receiving our full funding allocation (in the 7th month of the fiscal year).
- ▶ No changes in project scope or budget
- ▶ Organizational changes
 - Kawtar Hafidi is our new DOE NP project monitor, replacing Helmut Marsiske; Ted Barnes remains active.
 - Rob Kennedy is our Associate Contractor Project Manager.

Management & Oversight



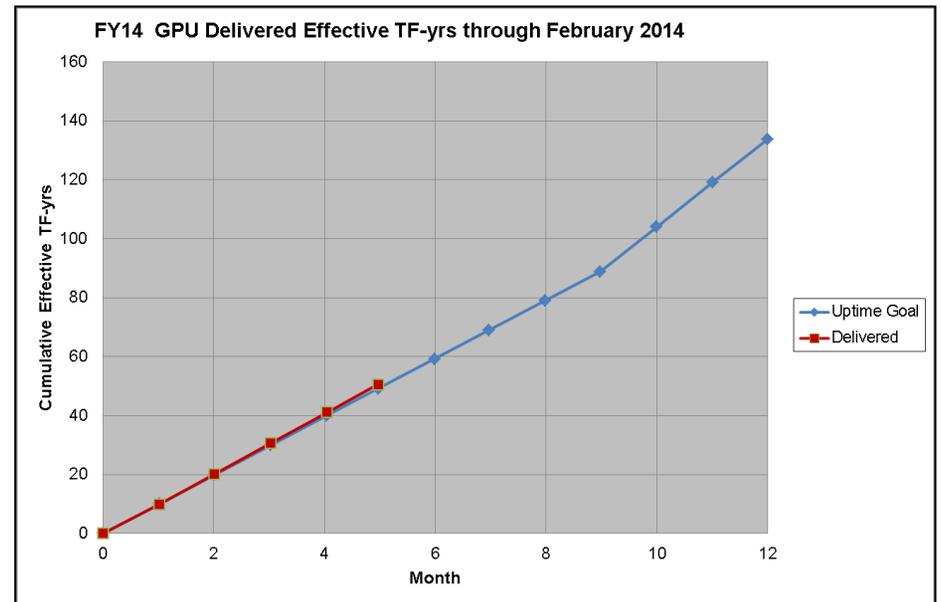
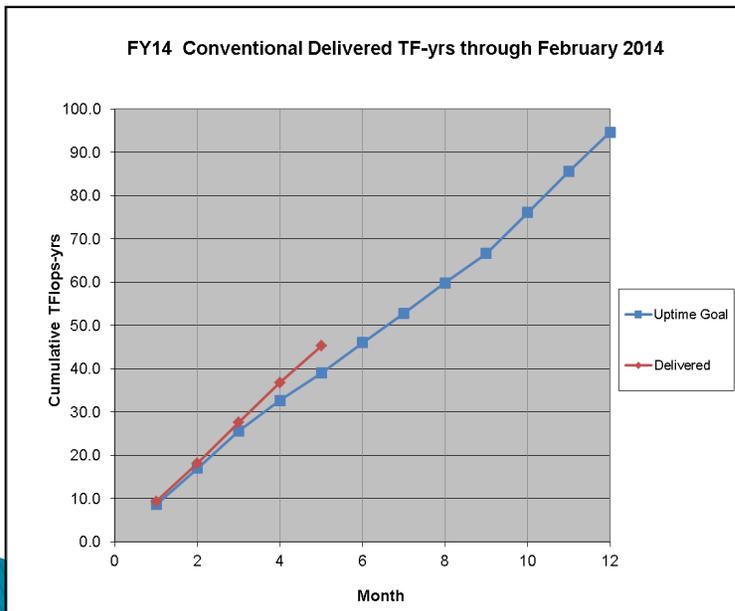
Project Performance

- ▶ We successfully met nearly all performance goals and key performance indicators in FY13
 - New hardware deployment was delayed due to delays in funding caused by the Continuing Resolution.
- ▶ We're on track to meet nearly all of our performance goals and KPIs this year as well.
 - Again with the exception of the hardware deployment, due to delays in funds delivery.
- ▶ The computing project is formally reviewed and our performance assessed on an annual basis by the DOE Offices of Nuclear Physics and High Energy Physics
 - The 2013 review was held on May 9–10, 2013 and resulted in a very successful outcome; there were no formal recommendations.
 - The 2014 review is scheduled for May 15–16, 2014 at Fermilab.

Revised Project Performance Goals

FY14 data for conventional resources are shown. The uptime goal is 8000 hours per year (91.3%). Performance goal is based on an average of the sustained performance of domain wall fermion (DWF) and highly improved staggered quark (HISQ) algorithms

FY14 data for GPU-accelerated clusters is shown. The uptime goal is 8000 hours per year (91.3%). Conversion from GPU-hrs to effective TF-yrs is 140 GF/GPU, based on allocation-weighted performance of GPU projects running from July 1, 2012 through Dec 2012.



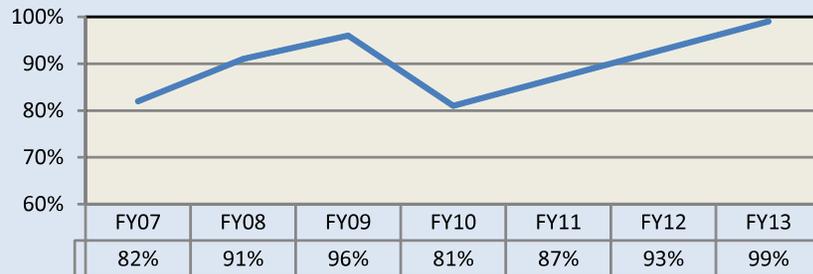
User Survey Results

FY13 Survey Results

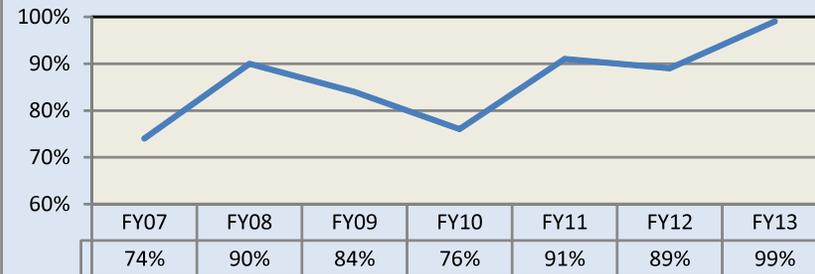
- ▶ To everyone who has participated in this year's survey – **Thank you very much!!!**
 - Your feedback and free-form comments are very helpful.
 - In addition to the insight you provide to the project team, your input is also carefully reviewed and valued by our DOE program managers.
- ▶ Unfortunately, this year's overall response rate has not been very good.
 - Invitations to participate in the survey were sent to 158 collaboration members; 43 responded. (25% response rate after three requests).
 - Those who responded appear to mostly be pleased with the operation of the compute facility and the current allocation process.
 - Low response rate has potential to skew results given small sample.
 - n=33 for compute facility responses; n=31 for allocation process responses

Satisfaction with Facility Operations

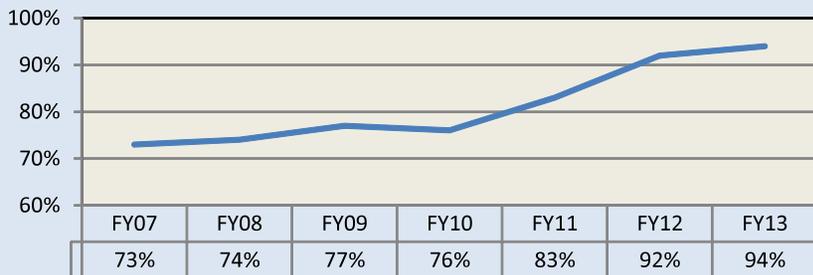
Overall Satisfaction with Compute Facilities



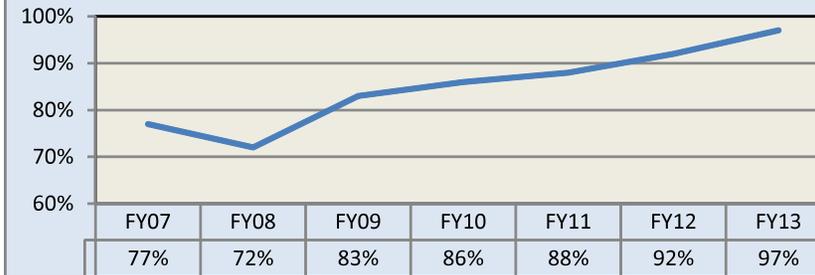
System Reliability



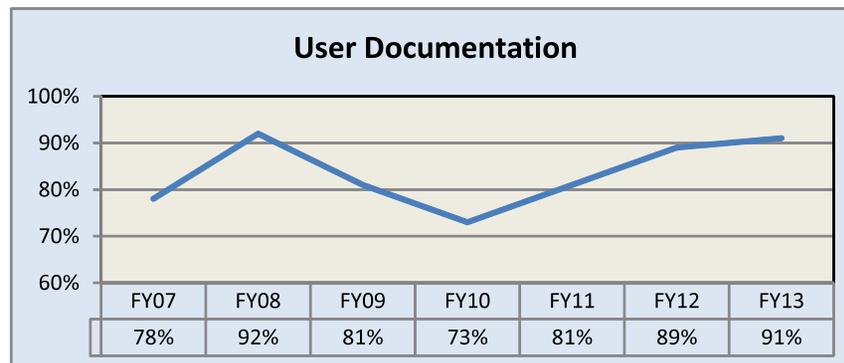
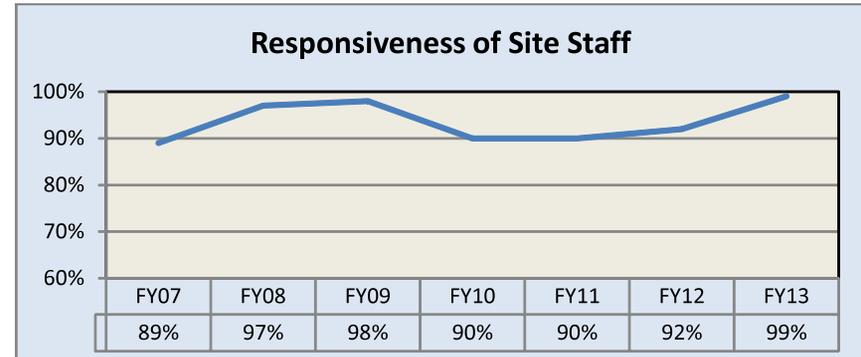
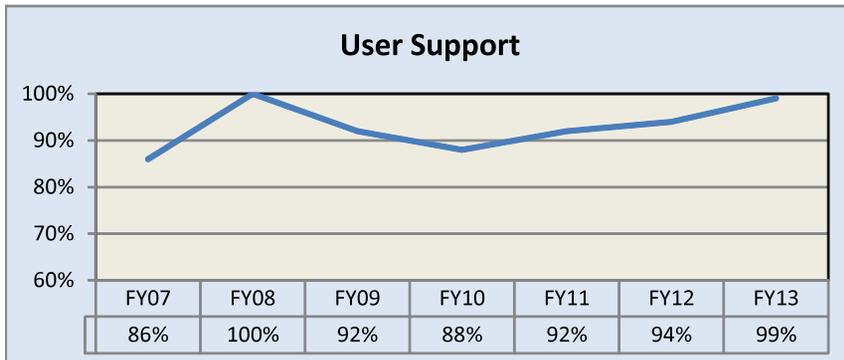
Ease of Access



Effectiveness of Online Tools



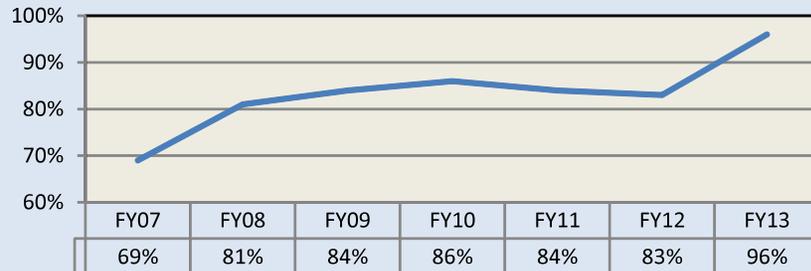
Satisfaction with Facility Operations (2)



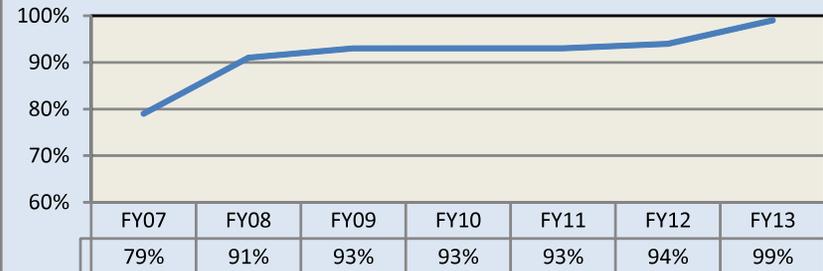
- ▶ Satisfaction with the operation of our compute facilities and the level of service and support we provide increased in all areas relative to last year.
- ▶ Free-form comments provide insight and suggestions for possible areas of improvement (documentation in particular) that we will consider and address.

Satisfaction with Allocation Process

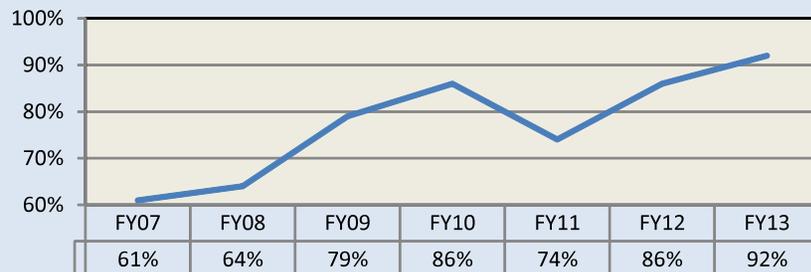
Overall Satisfaction with the Allocation Process



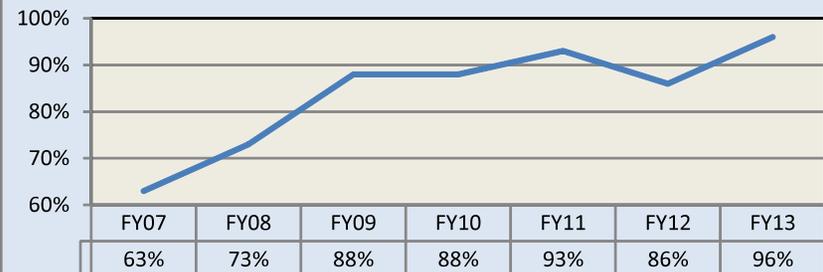
Clarity of the Call for Proposals



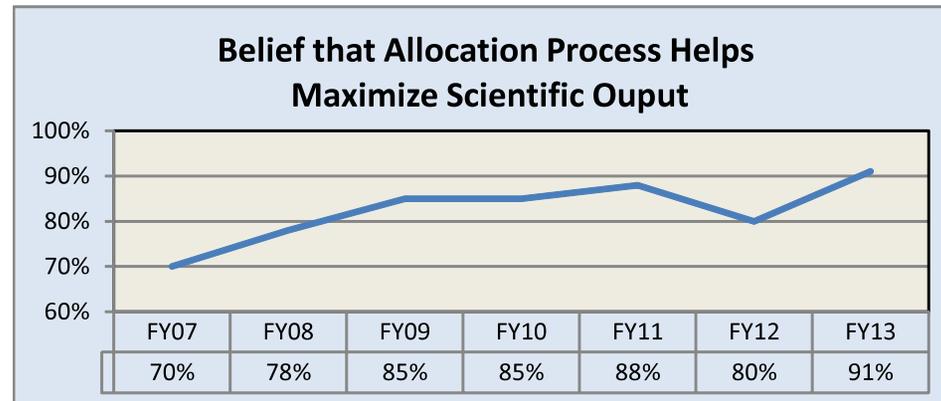
Transparency of the Allocation Process



Apparent Fairness of the Allocation Process



Satisfaction with Allocation Process (2)



- ▶ Survey results indicate improvement in satisfaction ratings for all areas related to the allocation process (overall satisfaction, clarity, transparency, fairness, maximizing scientific output).
- ▶ There were some free-form comments that provide feedback and/or suggestions for further improvements, which will be considered.
- ▶ Survey results indicate that the actions taken by the Executive Committee and Scientific Program Committee have been successful in improving the allocation process.

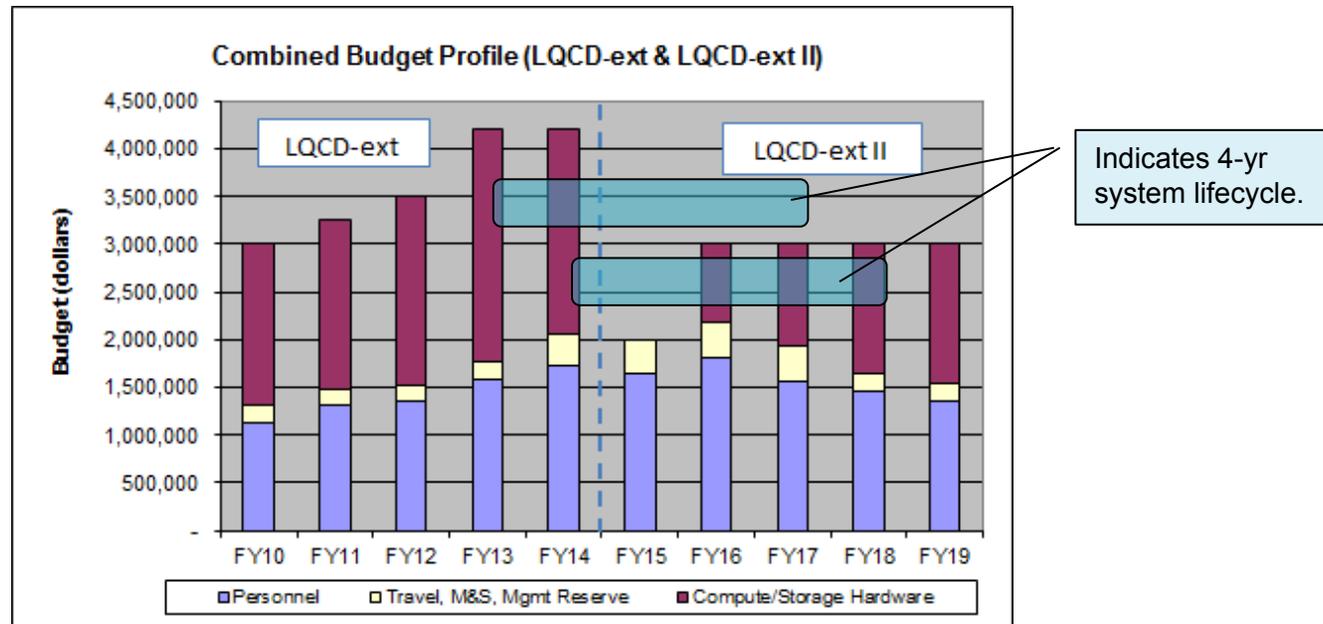
Future Project Planning (LQCD-ext II)

LQCD-ext II Status

- ▶ A proposal to extend the current computing project for another five years (FY15–19) was submitted by the USQCD Executive Committee and accepted by the DOE Office of Science.
- ▶ We are currently going through the formal DOE Order 413.3B Critical Decision (CD) approval process.
 - **CD-0: Approval of Mission Need**
 - **Granted Sep 9, 2013**
 - **Science Review**
 - **Review held Nov 18, 2013; report issued Jan 29, 2014; recommended proceeding to CD-1**
 - **CD-1: Approve Alternative Selection and Cost Range**
 - **Review held Feb 25, 2014; awaiting final report**
 - **CD-2: Approve Performance Baseline**
 - **CD-3: Approve Start of Execution**
 - **Combined CD-2/3 review is scheduled for Jun 5–6, 2014**
- ▶ If approved, anticipated project duration: Oct 1, 2014 through Sep 30, 2019
- ▶ The preliminary funding guidance we have received will fund the project at a lower level than requested.

Total Project Cost Profile Comparison

\$14 million Budget Scenario



- ▶ The \$14 million budget scenario represents a significant reduction in funding from current levels, which had been back-loaded in the funding profile for the current project (LQCD-ext).
- ▶ Personnel cost requirements are based on a refined staffing model. Level of operations support is based on number of nodes and GPUs in production during each year.
- ▶ Reduced funding level directly affects the amount of compute capacity we will be able to deliver to the science program.

Summary

- ▶ Facilities are running well, we're executing well against our plans, and the entire project team is focused on meeting the needs of the USQCD collaboration.
 - Your input and feedback is necessary
- ▶ We successfully met or exceeded all but one of key performance goals in FY13. We did not meet our target deployment dates.
 - User survey results indicate areas for potential improvement.
 - We missed deployment milestones due to Continuing Resolution and other factors.
- ▶ We are on target to meet nearly all of our FY14 performance goals.
 - Our site managers continue to do a very good job of operating their respective systems for minimize downtime and maximize output.
 - We've been affected by the budget situation in Washington; Continuing Resolutions impact the timing of our procurement and deployment activities.
- ▶ We are working hard to achieve CD-2/3 approval for the LQCD-ext II project.