

Overview of Agenda

Day 1 – Monday June 5th	
Thursday AM	Agency Reports
Thursday PM	Accelerator Science and R&D
Day 2 – Tuesday June 6th	
Friday – Session I	Accelerator Science and R&D (cont'd.) <ul style="list-style-type: none">• R&D facilities & Facilities Development• DOE Accelerator Stewardship Dark Matter Cosmic Visions Workshop
Friday – Session II	Reports <ul style="list-style-type: none">• Project Leadership Institute• ASCAC LDRD Subcommittee• HEP and Federal Budget Development
Friday – Session III	Report: Community Communications Activities HEPAP Discussion

HEPAP Discussion

HEPAP Meeting

June 6, 2017

Gaithersburg, MD

Andrew J. Lankford

HEPAP Chair

University of California, Irvine

BUDGET DISCUSSION

Links to Budget Requests

NSF (to find MPS and PHY):

<https://www.nsf.gov/about/budget/fy2018/index.jsp>

DOE HEP:

https://science.energy.gov/~media/budget/pdf/sc-budget-request-to-congress/fy-2018/FY_2018_SC_HEP_Cong_Budget.pdf

DOE (to find SC):

<https://energy.gov/cfo/downloads/fy-2018-budget-justification>

Budget Discussion

Observations:

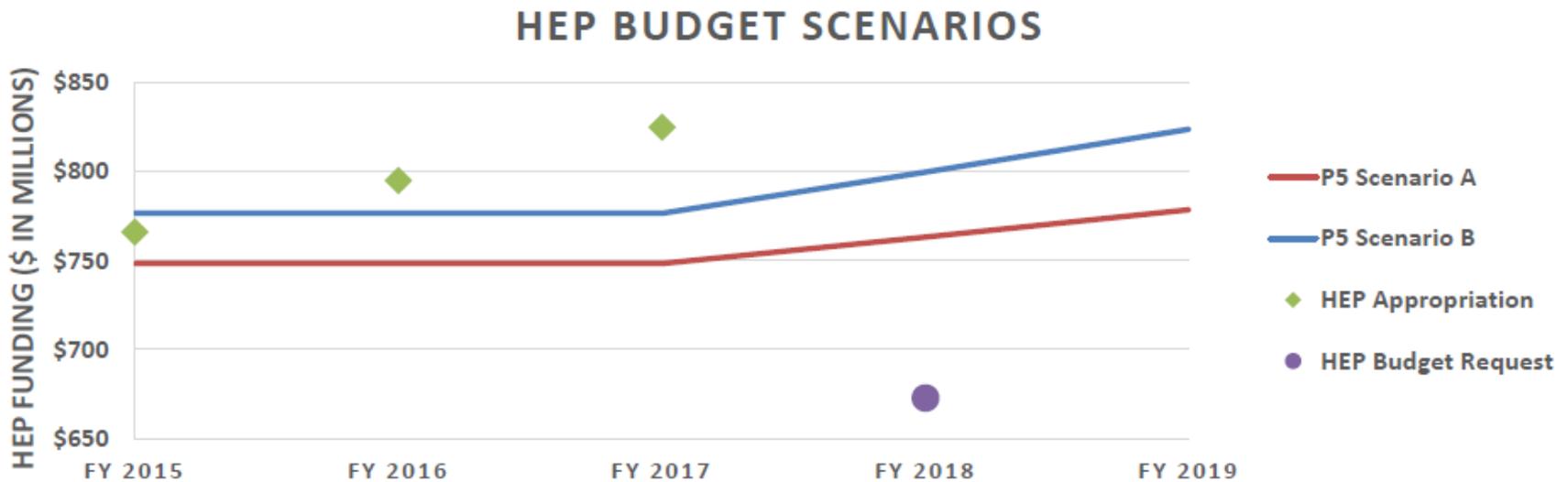
- **HEPAP advises DOE SC & NSF MPS.**
 - HEPAP has not been tasked to give advice on the budget.
 - Agencies benefit from HEPAP discussion.
- **HEPAP is not an advocacy group.**
 - Members can advocate as individual scientists.
- **HEPAP should appreciate the challenges that SC/HEP and MPS/PHY undertook to craft budget plans to targets that were significantly below prior year budgets.**
 - Let's not critique whether the proper choices have been made
- **What would be the impact of the PBR, if enacted?**
- **A question to the agencies:**
 - **What constructive advice can HEPAP give the agencies?**

From the 2014 P5 Report

The lowest budget Scenario is precarious: it approaches the point beyond which hosting a large (\$1B scale) project in the U.S. would not be possible while maintaining the other elements necessary for mission success, particularly a minimal research program, the strong U.S. leadership position in a small number of core, near-term projects, which produce a steady stream of important new physics results, and advances in accelerator technology. Without the capability to host a large project, the U.S. would lose its position as a global leader in this field, and the international relationships that have been so productive would be fundamentally altered.

From the 2014 P5 Report

The President's budget request falls below the lowest budget scenario considered by P5.



Going back 20 years, I believe that FY1997 was the most recent HEP budget in the range of \$670M.

From the 2014 P5 Report

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- **P5 reached this conclusion via serious deliberation as it formulated the strategic plan for the lowest budget scenario with which it was charged.**
- **HEPAP knows the delicate balance among Research, Operations, and Projects presently in the HEP program, as well as the sacrifices in Research to fund Projects.**
- **The impact of a 15% cut will have an impact that is much greater than 15% in research productivity.**

Since the 2014 P5 Report

- Since the particle physics community study that culminated in the 2014 P5 report, investment by the U.S. in particle physics research has been **guided** by the report's **ten-year strategic plan**.
- In crafting that plan, the U.S. particle physics community made **hard choices** and recommended redirections necessary to shape a **balanced, world-leading particle physics program** to address the field's greatest scientific questions within well-defined, **constrained budget scenarios** defined by the agencies.
- The plan recommends a balanced program of forefront scientific **Research activities, Facilities Operations, and new Projects**.
- It recommended that an increased fraction of the budget be invested in the construction of particular new **facilities that will be needed in the future**.
- It also recommended **theoretical research and advanced technology R&D** necessary to fuel the field in the further future, including strategic investment in accelerator R&D that will enable more powerful future facilities at reduced cost.
- The plan recognized the **global nature of particle physics** research, essential U.S. leadership roles, and **the value of international partnerships** that create **greater potential for scientific discovery** with efficient use of limited resources. These negotiated international partnerships are widely understood to be a “great deal” for the U.S.
- In the three years since the report, with the strong support of the agencies and of Congress, the U.S. particle physics community of universities and DOE national laboratories has made **great strides towards realizing the full promise** of the P5 strategic plan. The program presently has **strong momentum**.

BUDGET DISCUSSION

Unfinished Business - 1

Follow-up on Theory Letter of 11/18/2016:

<https://drive.google.com/file/d/0B3IXprj4oX2sU0VvczR6VzdheDQ/view>

- Letter expressed alarm regarding DOE funding of Theory.
 - At the December 2016 meeting,
 - This letter was discussed, but not to conclusion
 - Related issues concerning Theory arising from the 2016 COV report were discussed extensively.
 - AJL met with theorist members of HEPAP to discuss followup
 - Ask DOE for history of theory funding to serve as a standard basis for further discussion. Expected today.
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- **AJL will try to identify and contact drafters of the letter.**
 - **To better understand concerns, in light of COV report and HEPAP discussion, and to discuss appropriate follow-up.**
 - **Raise suggestion of a pre-eminent theorist to talk to HEPAP**
 - **We would discuss again in HEPAP**

Unfinished Business - 2

Follow-up on 2016 COV Recommendation #8:

	COV Recommendation	HEP Response
8	Encourage HEPAP to form a study group to consider whether the agencies should convene a subpanel to evaluate different roles and responsibilities in university and laboratory research and the ways in which this research is evaluated.	While the question of optimizing roles for laboratories and universities is important, we are concerned that such a possible subpanel lacks a clear charge and constructive outcomes, and would face challenging conflict of interest issues.

HEP has encouraged formation of such a study group.

I contacted HEPAP for volunteers, and received responses from:

Josh Klein

David Larbalestier

Stefano Profumo

Sam Zeller

Marcela Carena

Risa Wechsler

Timeline: report outcome of study at Nov/Dec 2017 meeting.

Upcoming HEPAP Meetings

Next in-person HEPAP meeting:

- **Thursday November 30th – Friday December 1st , 2017**
- **Venue TBD**

Next meeting by teleconference:

- **TBD (September timescale)**

Future Topics

Suggested topics for future meetings are always welcome.