



U.S. DEPARTMENT OF  
**ENERGY**

Office of  
Science

# HEP COV Responses

*HEPAP Meeting*

Dec 3-4 2020

*Glen Crawford*

*Director, Research and Technology R&D*

*DOE HEP*

# HEP COV 2020 Context

- ▶ HEP has held external Committee of Visitors reviews approximately triennially since 2004
- ▶ What's New :
  - ▶ First all-electronic COV (previous versions reviewed large quantities of paper)
  - ▶ First all-remote COV (Zoom)
- ▶ What's Different :
  - ▶ Focused only on HEP Research Program. Facilities and Ops will be focus of next HEP COV
  - ▶ Specifically addressed DE&I concerns



# Formalities

- ▶ **HEP COV is a subpanel of HEPAP**
  - ▶ Subpanels report their recommendations and advice to the full panel for deliberations and discussion
  - ▶ HEPAP can accept, reject, or recommend changes to any part of the report
- ▶ **When the final COV report is accepted it becomes formal HEPAP advice to the Director of the DOE Office of Science**
  - ▶ DOE will provide a written response to the report within 30 days of approval
  - ▶ Until then, we do not have any Official response to the recommendations or other content of the COV report
    - ▶ However, we are very interested in the HEPAP discussion, and in particular understanding the sense of the committee (and HEPAP) on the intent of the Recommendations. This will help us formulate an accurate and effective response.
  - ▶ We will do our best to answer questions regarding current DOE processes and practices
  - ▶ We will provide comments on some select Recommendations as appropriate
- ▶ Findings and recommendations that require SC-wide response (if any) will be referred by HEP management to SC-3 for response.
- ▶ Follow-up as needed with report(s) to HEPAP at future meetings



# Bottom-line Up Front

- ▶ Excellent, dedicated, focused work by COV panel and HEP staff over the course of ~4 weeks.

Thank You!

- ▶ Evaluated all aspects of HEP Research program review processes, and documentation thereof; and quality of the resulting portfolio
- ▶ Also reviewed updated responses to 2016 COV Recommendations.
- ▶ Generally very positive Findings and Comments, 20 Recommendations

*Updated HEP responses (2016 COV) and some comments (2020) follow*



# Updated Responses to 2016 COV

- There were 30 Recommendations in the final 2016 COV report
- We agreed with all of the 2016 COV recommendations and have worked to implement them in a timely fashion
  - **22 have been fully implemented**
  - Of these, 9 Recommendations were deemed Completed by Jan 2017

## Summary of remaining Responses by Type:

### 1. Review mechanics [7]

- ▶ Develop standard template presentation for review panels, including:
  - Discussion of cross-cut or “migratory” proposals (**#5**)
  - Discussion of the particular needs and qualifications of “non-traditional” applicants (**#14**)
  - Discussion (as appropriate) of institutional roles and responsibilities with respect to operations and projects (incorporated in #10)
  - Discussion of research scientist roles and responsibilities (incorporated in #21)
- ▶ Deal with repeating proposals (**#12**)
- ▶ Develop standard timeline and template for lab review reports (**#6**)
- ▶ Develop standard guidelines for mail and panel reviewer selection (**#9,25**)
- ▶ Develop standard operating procedures for review panels (**#7**)



# Updated Responses to 2016 COV

## Summary of remaining Responses by Type:

### 2. Implementation Plans [3]

- ▶ Develop detailed operations and research program plans that implement the P5 vision over the next 10 years, consistent with current budget guidance (**#3**).
- ▶ Develop a plan for a “healthy and vigorous basic accelerator R&D portfolio” (**#29**). Includes developing GARD review metrics (**#27**).

### 3. Miscellaneous [3]

- ▶ Downsize/reorganize next COV (**#15**)
- ▶ Develop HEP staffing plan, fill vacancies (**#23, 30**)



# Updated Responses to 2016 COV

## Summary of remaining Responses by Type:

- **8 are ongoing: (Details in Backup slides)**
- Recommendations on Detector R&D program [#16,17] were largely deferred pending key community input (Detector R&D BRN report, issued Aug 2020).
- Recommendation on software and computing planning [#18] has been deferred in part to allow development of coherent HEP program strategy, and in part due HEP staffing shortages in this area.  
*HEP job Announcement in this general topic area is imminent.*
- Recommendation on diversity and inclusion plan [#19]: HEP has followed DOE SC lead. See also J. Carruthers talk at July HEPAP.
- Recommendations on HEP Theory program [#24, 26]: like all HEP research, Theory has struggled with research budget limitations; attracting IPA candidates has been difficult.
- Recommendation on Accel Technology roadmaps [#28] has been mostly achieved: 3 (of 5) have been issued and the other 2 are in development. COVID-19 has slowed progress on latter two.
- Recommendation on HEPAP “roles and responsibilities” study group [#8] has proven difficult to implement.



# Comments on 2020 COV. I

## ▶ Research Budgets (Recommendation 1)

- ▶ We understand the depth and breadth of this challenge, and its importance to the community.
- ▶ 40% Research as a fraction of total budget is a useful and widely used metric, but it is somewhat arbitrary and oversimplifies a complex problem.
- ▶ In general, xx% annual growth in Research is a good goal.
- ▶ However, we recognize this goal can be challenging and the outcome is often beyond our control.
- ▶ We can develop various more targeted strategies but it is not clear which would be most effective. Input welcome.





# Comments on 2020 COV. II

## ▶ HEP QIS Program (Recommendation 18)

- ▶ We understand the community concerns about the future direction(s) of the QuantISED program and the desire for a better definition of the scope of the program.
- ▶ We note that the initial QuantISED FOAs (FY18 and FY19) purposefully cast a wide net to sample the broad span of investigations that lie at the intersection of HEP and QIS and assess the most promising avenues for further study.
- ▶ We expect further evolution of the program based on the initial results and interactions with DOE/SC, the DOE QIS Centers, and other partners.
- ▶ We welcome HEPAP input on how to develop a mature program, which is the spirit in which we understand Recommendation 18 (as opposed to a statement about relative priorities).



# Lessons Learned

- ▶ PAMS COV module is not very intuitive, especially if you are not a regular PAMS user
  - ▶ Will feed-back suggestions for improvements to SC PAMS working group
- ▶ Zoom may not be very well-suited to COVs
  - ▶ In-person multi-day review enables lots of unstructured Q&A with program staff, in addition to lots of time to review material and discuss
  - ▶ Zoom time constraints dictated a more structured approach
- ▶ More focused COV scope seems to be well-received
- ▶ Diversity and Inclusion discussion a welcome addition.
  - ▶ Thanks to Julie Carruthers for participating in those discussions and giving the SC perspective, and to the COV for accommodating agenda and format changes.





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# Backup Slides

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Detailed Updated Responses to 2016 COV  
Recommendations

# Detailed Responses to 2016 COV

COV Recommendation		Update	Comment/Notes
1. Continue the comparative reviews of university and laboratory research proposals and activities.	Agreed. We appreciate HEPAP's continuing support of the comparative review process.	In addition to informing HEP community of other planned DOE/HEP activities in any given fiscal year, the comparative review process has been augmented with DOE/HEP Principal Investigators (PI) Meetings to inform and guide applicants of the process, program plans and priorities (see also Recommendation 20 below).	
2. Adopt, in consultation with HEPAP, an annual mechanism to determine the best plan of action to implement the P5 vision. In such cases where HEP deviates from the strategic advice, the case should be clearly explained to the community through discussion with HEPAP.	HEP appreciates the community's desire to have more regular discussions that focus on implementation of the P5 plan. We are considering options that will allow discussion of program plans with the research community within the context of annual budget execution.	<b>Done.</b> Developed materials for upcoming HEPAP meetings to better explain P5 implementation plan within the current budget context.	See e.g., HEP Budget/Program status briefings to HEPAP.



# Detailed Responses to 2016 COV

COV Recommendation	HEP Response (Jan 2017)	Update	Comment/Notes
<p>3. Work closely with the Laboratories and with Project Management and Program Management teams to develop a comprehensive strategic plan, consistent with P5 guidance, that anticipates the needs for future operating funds that will arise from improvement, upgrade and MIE projects. The plan should account for the funding needs not only of accelerator and experimental operations, but also of software, computing, and technical support for the new experimental programs. Develop a similar comprehensive plan for future research program needs, once again taking into account the need for research efforts to maximize the scientific return on improved, upgraded, and new facilities and experiments.</p>	<p>HEP, working with all of the relevant stakeholders in the community, will develop plans for operations and research to provide a detailed implementation strategy for the P5 plan.</p>	<p><b>Done.</b> Developed detailed operations and research program plans that implement the P5 vision over the next 10 years, consistent with current budget guidance. Identify areas where program implementation may fall short of expectations and raise to HEP management for decisions as needed.</p>	<p>Multiple budget scenarios have been analyzed over the preceding 4 years.</p> <p>Experiment operating budgets are now individually reviewed and folded into projections. Accelerator operations, technical support and software and computing operations budgets are largely the responsibility of the DOE labs.</p>



# Detailed Responses to 2016 COV

COV Recommendation	HEP Response (Jan 2017)	Update	Comment/Notes
<p>4. Augment discussion with HEPAP of budgets by annually presenting the disposition of reserves and explaining how the final HEP allocations to the research programs of the frontiers are consistent with P5 recommendations.</p>	<p>HEP will develop and present to HEPAP an annual assessment of the final budget allocations for recently completed Fiscal Years.</p>	<p><b>Done.</b> Developed materials for upcoming HEPAP meetings to better explain final FYxx budget allocations.</p>	<p>See e.g., HEP Budget/Program status briefings to HEPAP.</p>
<p>5. HEP should work to reduce barriers to migration of researchers from one frontier to another.</p>	<p>Program managers and grant monitors frequently work with PIs to answer questions concerning possible new proposals that cross-cut HEP research frontiers, and will continue to do so. HEP will work with review panels to provide information to ensure a fair assessment of PIs who propose work in frontiers that were not part of their previous research program.</p>	<p><b>Done.</b> Developed standard template presentation to provide guidance to PIs, shown at annual DOE/HEP PI Meeting, and for review panels that includes discussion of cross-cut or “migratory” proposals.</p> <p><b>Furthermore, to assist reviewers in their evaluations, now request corresponding investigators to include an “effort table” for each budget period where support from two or more HEP subprograms and/or thrusts are requested, and added sub-questions in standard merit review criteria.</b></p>	<p>In each of the experimental frontiers, we have let every investigator know they should discuss with us if they’re planning to migrate so we can explain what types of plan and efforts review well. In some cases however, a person may have had less impact in performance in the other area, then moves over, and continues to not review well</p>



# Detailed Responses to 2016 COV

COV Recommendation	HEP Response (Jan 2017)	Update	Comment/Notes
6. Deliver laboratory comparative review reports no later than six months after the review is held.	Agreed.	<b>Done.</b> Developed standard timeline and template for lab review reports. <b>HEP Admin staff track the timelines to keep reports on schedule.</b>	
7. Appoint members of recent university panels to the laboratory comparative review panels in each program area in order to help gauge the uniformity of quality between laboratory and university research.	HEP will endeavor to appoint a few members from recent university review panels to future laboratory comparative review panels.	<b>Done.</b> Developed standard guidelines for review panel membership	
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.	<b>In progress.</b> Discussed with HEPAP chair and COV chair. Study group forthcoming.	<b>We have had many discussions with past and present HEPAP Chairs on how to successfully address this Recommendation.</b>



# Detailed Responses to 2016 COV

COV Recommendation	HEP Response (Jan 2017)	Update	Comment/Notes
<p>9. Ensure an adequate number (at least 3) of reviewers for each PI.</p>	<p>A minimum of three reviewers per proposal is the current requirement (per SC merit review criteria). To minimize the overall burden of reviews on the community we often look for reviewers who can cover more than one research area so the total number of reviewers is typically less than (3 x number of PIs). Occasionally some mail reviewers drop out of the process after initially committing to reviews, which can result in fewer than 3 expert reviews for some PIs. In those cases we endeavor to find additional reviewers, but this can be difficult in certain highly specialized topics.</p>	<p><b>Done.</b> Developed standard guidelines for reviewer selection.</p> <p>Most subprograms assign 4 or more reviewers to each research task. The theory program conducts reviews “by PI” with four or more reviewers (at least one a panelist) with significant knowledge of the proposed research to review each PI.</p> <p>In rare cases we use internal reviews or panelist reviews to reach 3 reviewers for each research thrust.</p>	
<p>10. Inform review panels about special information obtained by DOE program managers concerning project operational or infrastructure responsibilities and experiment leadership roles.</p>	<p><b>Done.</b> This information (where known) was shared with comparative review panels as part of the FY2017 grant review process.</p>	<p><b>Done.</b> Continue practice. Develop standard operating procedures for review panels</p>	<p>Experimental HEP programs collect info from the Project, Operations and Collaboration management and use it to inform the panel review for priority, leadership, critical roles &amp; responsibilities.</p>



# Detailed Responses to 2016 COV

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<p>10. Inform review panels about special information obtained by DOE program managers concerning project operational or infrastructure responsibilities and experiment leadership roles.</p>	<p><b>Done.</b> This information (where known) was shared with comparative review panels as part of the FY2017 grant review process.</p>	<p><b>Done.</b> Continue practice. Develop standard operating procedures for review panels</p>	<p>Experimental HEP programs collect info from the Project, Operations and Collaboration management and use it to inform the panel review for priority, leadership, critical roles &amp; responsibilities.</p>

# Detailed Responses to 2016 COV

COV Recommendation	HEP Response (Jan 2017)	Update	Comment/Notes
<p>11. Include more information about why proposals were declined in both the declination letters and the folders.</p>	<p><b>Done.</b> For proposals which received peer review, additional information is contained in the reviews themselves and program manager comments, which are conveyed to the PI(s) and recorded in PAMS. For proposals declined without review as a result of the proposal being non-compliant per the FOA requirements, we have added additional information to the PAMS record and communicated the specific reason for declination to the PI(s).</p>	<p>(none)</p>	
<p>12. Seek ways to mitigate the load arising from repeated submissions of rejected proposals.</p>	<p>HEP will investigate mitigation strategies.</p>	<p><b>Done.</b>            Following provision included in comparative review FOAs since FY 2018: <i>“A previously declined application may be resubmitted to this FOA, but only after it has undergone substantial revision. An application submitted to this FOA that has not clearly taken into account the major concerns from prior DOE reviews may be declined without review and will not be considered for funding.”</i></p>	

# Detailed Responses to 2016 COV

COV Recommendation	HEP Response (Jan 2017)	Update	Comment/Notes
<p>13. Form mini-panels to review Early Career proposals in related fields. At least one member from each mini-panel should be a member of the larger super-panel deciding Early Career Awards</p>	<p><b>Done.</b> HEP adopted this process for Early Career selection starting in 2015 and is continuing to use mini-panels.</p>	<p><b>Done.</b>  This approach is still considered “best practice” but has been impacted by compressed FOA review schedules in recent years.</p>	<p>For 2016, 2017 the process worked as described most subprograms running mini-panels and with at least 1 (usually more) mini-panelist from each subprogram serving on the super-panel. In 2018, 2019, delays in issuing the ECRP FOA left no time for the full process  Consensus view: mini+super-panels is best, super-only is next, mini-only is least preferred.</p>
<p>14. Ensure that the review process recognizes the potential contributions to the DOE mission from qualified applicants at a wide range of institutions, including non-Ph.D. granting colleges.</p>	<p>HEP will highlight such cases as part of its comparative review process, and solicit input from reviewers on the potential impacts of such proposals. We note such considerations are included in the program policy factors that are explicitly part of the DOE merit review process.</p>	<p><b>Done.</b>  Develop standard template presentation for review panels that includes discussion of the particular needs and qualifications of “non-traditional” applicants</p>	<p>Some of these groups have been funded by HEP in FY2016-9.</p>



# Detailed Responses to 2016 COV

COV Recommendation	HEP Response (Jan 2017)	Update	Comment/Notes
<p>15. Change the organization of future CoVs to amalgamate the review of the three experimental frontiers into one subpanel that is smaller than the sum of the three current subpanels</p>	<p>HEP will seek to reorganize future COVs to create a more compact review structure.</p>	<p><b>Done.</b> Adopted for 2020 HEP COV.</p>	
<p>16. Restore a balanced generic detector R&amp;D program as soon as possible after the technical challenges of current high-priority P5 projects are met.</p>	<p>Agreed. HEP will endeavor to restore a balanced generic detector R&amp;D program as soon as possible.</p>	<p><b>In progress.</b>  As the short-term needs of the ongoing P5 projects have subsided, HEP has redirected support towards more generic, longer-term R&amp;D efforts. Recent FOAs have explicitly called for proposals “for “Blue-Sky” scientific research on “innovative technologies not already in contention for implementation in future DOE HEP projects”.</p>	



# Detailed Responses to 2016 COV

COV Recommendation	HEP Response (Jan 2017)	Update	Comment/Notes
<p>17. Work with the high energy physics community to generate a roadmap for investments in detector R&amp;D based on future research needs of the field.</p>	<p>Agreed. We note that the community has generated an initial draft roadmap for detector R&amp;D investments and we look forward to working with them on implementation.</p>	<p><b>In progress.</b></p> <p>HEP has broadly engaged with the community in the course of the 2019 HEP Detector R&amp;D Basic Research Needs Study, which was tasked to summarize the current status of HEP instrumentation, assess the challenges and needs of future experiments, and articulate future technology priority research directions. The Study results will inform Detector R&amp;D program planning, which may include a call for proposals to pursue new technology developments and capabilities that address the Study priorities.</p>	
<p>18. Include planning for computing and software development into the planning for projects and new initiatives.</p>	<p>Agreed. We expect this to be part of the detailed implementation plan discussed above (Recommendation #3)</p>	<p><b>In progress.</b></p> <p>Based on outcomes from recent comparative reviews, HEP labs have been tasked with developing software and computing plans that support future projects and associated research.</p>	<p>HEP has supported and encouraged the planning process through roundtable meetings, the ESnet Requirements Review process, funding the CCE as a community resource, funding pilot software projects, and by issuing PEMP Notables when necessary.</p>

# Detailed Responses to 2016 COV

COV Recommendation	HEP Response (Jan 2017)	Update	Comment/Notes
19. Develop a plan for increasing diversity in the programs HEP supports.	HEP will work with SC management to develop strategies for improving diversity in its research programs.	<b>In progress.</b> HEP POCs are meeting with SC management to develop strategies.	
20. Continue and enlarge the effort by HEP staff to make presentations about program priorities and to have PI meetings at major conferences.	Agreed. We concur with the comment in the COV report that such activities will require increased travel funding.	<b>Done.</b> Continue practice.	We have had in-person HEP PI meetings (standalone or in conjunction with domestic conferences) annually since 2016.
21. Continue to require appendices describing the work of each university research scientist in proposals	Agreed.	<b>(none)</b>	



# Detailed Responses to 2016 COV

COV Recommendation	HEP Response (Jan 2017)	Update	Comment/Notes
<p>22. Consider for support, through research and operations funding, research scientists making clear and critical contributions to cosmic frontier experiments and construction projects</p>	<p><b>Done.</b> Such considerations were included as part of the FY 2017 comparative review process, and will be considered as part of the reviews of experimental operations plans.</p>	<p><b>Done.</b> Continue practice. Develop standard template presentation for review panels that includes discussion of research scientist roles and responsibilities.</p> <p><b>Required dedicated Appendix #2 in an application for university research scientists since the FY 2015 FOA. Appendix material includes groups providing a 2-page narrative and 1-page biographical sketch (CV) for each named research scientist requesting support from DOE.</b></p>	<p>DOE/HEP PMs have provided uniform guidance on appropriate scope and fraction of work for RS to be supported from the HEP research program. Guidance is provided to 1) PIs at DOE/HEP PI Meetings, and 2) reviewers during panel deliberations.</p>
<p>23. Fill the Program Manager position for the Intensity Frontier as soon as possible.</p>	<p>Agreed.</p>	<p><b>Done.</b> New IF PM Brian Beckford started Aug 2020.</p>	



# Detailed Responses to 2016 COV

COV Recommendation	HEP Response (Jan 2017)	Update	Comment/Notes
<p>24. Work to restore a thriving and intellectually diverse theory program mentioned as essential in the P5 report. Support for theory as a fraction of the research budget should not fall below the current level in order that the scientists ranked in tiers 1, 2, and 3 remain adequately supported.</p>	<p>Support for Theory as a fraction of Research has actually been going up in recent years as Technology R&amp;D takes big cuts. HEP is examining the long-term balance of activities in its R&amp;D portfolio to ensure long-term excellence.</p>	<p><b>In progress.</b> Develop a plan for a “thriving and intellectually diverse theory program”</p>	<p>The theory program, like all HEP research, has struggled with budget limitations. The theory program continues to thrive, as measured by the outstanding early career scientists (including 9 ECRP awardees 2016-9) who enter the field. The program manager has been careful to structure the composition of review panels to permit evolving research priorities.</p>
<p>25. The proportion of panelists should better reflect the balance of thrusts among the PIs being reviewed in order to provide more informed discussion and rankings.</p>	<p>HEP will continue to work to ensure good balance among its comparative review panels. We rely on the generosity of the community in giving their time to serve on these panels.</p>	<p><b>Done.</b> Develop standard guidelines for reviewer selection.</p> <p>Theory program has worked to rebalance review panels so that panel makeup better reflects distribution of proposals. Cosmic and Intensity Frontiers structure panels to represent diverse research thrusts; Energy Frontier balances between CMS and ATLAS.</p>	



# Detailed Responses to 2016 COV

COV Recommendation	HEP Response (Jan 2017)	Update	Comment/Notes
<p>26. We reiterate this recommendation [2013 HEP COV Rec. #15: Hire an IPA for the Theory program]. Such a hire will assist with the heavy peak workload and should help provide a balanced perspective to program.</p>	<p>Agreed. A university IPA held this position in 2014 and a lab detailee in 2015-6. We are searching for a new IPA/detailee.</p>	<p><b>In progress.</b> Community volunteers/suggestions welcome.</p>	<p>Program manager mentions the IPA position at each PI meeting and during site visits but there have been no applicants so far.</p>
<p>27. Develop the tools and capability within the reporting process to gather and collate field-appropriate metrics (e.g. publications, citations, patents, etc.) that would be useful to evaluate the productivity and impact of the GARD research programs.</p>	<p>Agreed. Much of this information is included in standard university progress reports and such 'products' are appended to renewing proposals submitted to the university comparative review process. It is also typically requested as input to the lab comparative review process.</p>	<p><b>Done.</b> Developed tools and partially implemented at GARD comparative lab review (2018): <b>Standardizing reporting, proposal format, and review criteria so proper comparative evaluation of research progress and accomplishment can be conducted. Besides university proposal review, all GARD lab programs are comparatively reviewed under common review criteria and review committee charges. Lab field work proposal format is being streamlined for better uniformity.</b></p>	



# Detailed Responses to 2016 COV

COV Recommendation	HEP Response (Jan 2017)	Update	Comment/Notes
<p>28. Consider creating and implementing roadmaps to defining research priorities for the GARD research thrusts not yet mapped.</p>	<p>Agreed. HEP is planning additional technology roadmapping activities in 2017.</p>	<p><b>In progress.</b>  <b>RF Acceleration Technologies workshops held Jan-Mar 2017.</b>  <a href="#">(Radiofrequency Accelerator R&amp;D Strategy Report.)</a></p> <p><b>High Power Targetry community workshop held on May 31 – June 1, 2017.</b>  <a href="https://indico.fnal.gov/event/14212/">(https://indico.fnal.gov/event/14212/)</a></p> <p><b>Accelerator and Beam Physics R&amp;D Roadmap—2 community preparatory workshops had been held, report in preparation.</b>  <a href="https://conferences.lbl.gov/event/279/">(https://conferences.lbl.gov/event/279/;</a>  <a href="https://indico.fnal.gov/event/22709/">https://indico.fnal.gov/event/22709/)</a></p>	<p>Roadmap status reviews and updates will be held at appropriate times. Review and update for the Superconducting Magnet R&amp;D Thrust has been held on December 4-5, 2019.  <a href="https://conferences.lbl.gov/event/264/timetable/">(https://conferences.lbl.gov/event/264/timetable/)</a> Report and updated R&amp;D roadmap are in preparation.</p> <p>GARD Targetry workshop to be held in 2021, delayed by budget uncertainty and awaiting final report from community workshop.</p> <p>GARD Beam Physics workshop to be held in 2021.</p>



# Detailed Responses to 2016 COV

COV Recommendation	HEP Response (Jan 2017)	Update	Comment/Notes
29. Work to address the accelerator R&D subpanel recommendations to ensure a healthy and vigorous basic accelerator R&D portfolio	Agreed.	<p><b>Done.</b> Continue to strengthen research portfolio using GARD Research Thrust Roadmaps and collaboration with other SC programs, e.g. superconducting magnet R&amp;D and laser/plasma wakefield acceleration with FES, and beam physics and SRF R&amp;D with BES.</p>	<p>We note for example that these efforts have resulted in additional investments by FES in new/expanded GARD test facilities at LBNL and FNAL. Other co-funding opportunities are under discussion.</p>
30. Re-evaluate the staffing needed to successfully support the multiple larger projects on the horizon	Agreed. We are working on an updated staffing plan.	<p><b>Done.</b> HEP has brought on additional (mostly term) staff in both Research and Facilities Division to address needs of executing the full menu of P5 projects. We continue to pursue additional permanent HEP staff positions to better address a number of cross-cutting areas and new initiatives.</p>	



# 20.

