

DOE High Energy Physics Portfolio Review Frequently Asked Questions (FAQ)

Q1: What is the scope of the HEPAP Portfolio Review?

A1: The HEPAP Portfolio Review is an independent peer review process conducted by HEPAP of the currently operating experiments that are supported by the DOE Office of High Energy Physics (HEP). The review will focus on the scientific impact and productivity of HEP-supported contributions to such experiments within the context of the HEP portfolio. Details of the review as well as the evaluation criteria that will be considered by the subpanels are provided in the Charge for the review and the supporting document on instructions for proposers, both available at (see links under HEPAP Charges/Reports for '2017'): <https://science.energy.gov/hep/hepap/reports/>.

Q2: For either the Main or LHC Subpanels being held for the HEPAP Portfolio Review, how will the results be used by DOE?

A2: The results will be used to assist with an implementation strategy for the DOE/HEP portfolio of experiments for FY 2019 through FY 2022. This will include efforts by DOE to optimize the science impact and productivity of its experimental research portfolio.

Q3: We are preparing the proposal to be submitted for the HEPAP Portfolio Review. Can you please summarize the appendices that are required in the proposal?

A3: As detailed in the 'Instruction for Proposers' document for the HEPAP Portfolio Review (see pp. 2-3, Section 4 on 'Appendices' of this document), the following four appendices are required in the proposal:

- Appendix A: DOE-supported effort tables separated by job type and type of institutions (see also Q&As #8-9 below);
- Appendix B: Effort Spreadsheets — see separate instructions that were provided to proposers on completing the tables in the spreadsheets;
- Appendix C: Acronym List; and
- Appendix D: Bibliography.

Q4: Is a Data Management Plan (DMP) required in the proposal?

A4: Yes. The DMP should be up to 2 pages for the experiment. Please follow the standard DOE Office of Science requirements, which are described in DE-FOA-0001664, Section IV.C.2 on Appendix 6; the FOA is available at: https://science.energy.gov/~media/grants/pdf/foas/2017/SC_FOA_0001664.pdf.

Q5: The evaluation criteria for the Portfolio Review requests addressing efficiency of DOE-supported contributions to the physics analysis efforts. What is the exact definition of efficiency that will be evaluated?

A5: In this context it is not possible to provide one universal definition for efficiency, nor does one specific number capture the efficiency of contributions to research efforts. Proponents are encouraged to respond to the various sub-bullet points and questions that are listed under the evaluation criteria on

efficiency (*i.e.*, see sub-bullets for the third criteria in Appendix B of the supporting document for ‘Instructions to Proposers’, which accompanies the Charge of the Portfolio Review).

Q6: To what extent should we discuss any activities on the experiment that are supported through program offices outside the DOE Office of HEP in the proposal? For example, LHC heavy-ion physics, planetary searches, or neutrinoless double beta decay. Should a discussion be avoided entirely, not mentioning any results from such activities in Section 1(a) of the proposal? Or should we discuss these in Section 1(d) — summary or other important science results, not included in Section 1(b), expected in the next four years?

A6: The HEPAP Portfolio Review will evaluate the scientific impact and productivity of currently operating experiments supported by the DOE Office of HEP, and specifically, those efforts supported within the HEP portfolio. Activities that receive support from program offices outside the DOE Office of HEP will not be directly evaluated in this particular review. Nonetheless, proponents may discuss merits of the overall experiment, including efforts not supported by HEP, as well as any connections or synergies of the HEP-supported program to the non-HEP supported program. When preparing proposals to address items for Section 1, it is up to the proponents to assess the top science or technology goals for any aspect of the HEP-supported program, and assess whether those goals are at a higher priority relative to others.

Q7: It would be natural to reference the full publication list in the Bibliography [*i.e.*, Appendix 4(d) identified in the Instruction for ‘Proposers’ document], but this would become a long list of papers for each experiment. Should our publication list be selective? For example, should we select only publications where U.S. authors made major contributions? One issue with this approach is that U.S. authors may have made contributions, both large and small, in almost all the publications on the experiment.

A7: While it is recognized that the DOE/HEP-supported program plays some role in almost every publication, the two subpanels will be requested to evaluate whether the DOE-supported groups are efficiently deployed to maximize their impact on the physics analysis efforts. In order for the panel to make a determination on whether the U.S. physics output is commensurate with the resources allocated, please provide publication information in a format that makes the strongest possible case.

Q8. What exact information needs to be included in the lab and university effort tables requested for Appendix A of the proposal?

A8: Provide effort data in terms of Full-Time Equivalent (FTE) for FY 2017 for your experiment, separately for DOE/HEP-supported university and lab collaborators, binned by job type of person supported and by where they expend their efforts (*i.e.*, Operations, Physics Analysis, or Upgrades). A given person may spend their effort in more than one category, but a given person’s efforts should sum to 1.0 FTE if their research activities are full-time on this experiment. Personnel funded by the National Science Foundation (NSF), other DOE offices or other non-HEP sources of funding should ***not*** be included.

Q9: Are the effort tables in Appendix A of the proposal only for efforts in FY 2017, or should there be corresponding tables for each year for the next four years? Are all efforts on the experiment, including R&D for possible future upgrades, to be included?

A9: The table for Appendix A of your proposal should include all Full-Time Equivalents (FTEs) that are supported by the DOE Office of HEP on any aspect of the experiment for FY 2017 — *i.e.*, the table should reflect the full HEP support for the experiment. If there are significant shifts (>20% relative to FY 2017) in effort over the years covered by the review, a similar table should be provided for each year: FY 2019, FY 2020, FY 2021, and FY 2022. If there are no significant shifts in effort planned over the review period, the proponents can simply state this and do not need to provide additional tables.

Q10: Are budgets and funding profiles needed for the proposal? It appears so from the Charge letter, which states “operations budgets and schedules will be requested from the proposers but will not be an explicit review criterion”. However, the instructions for proposers did not request detailed budgets or schedules.

A10: Budgets and funding profiles are not necessary. Information of the Full-Time Equivalent (FTE) levels that are required to be included in Appendices A and B of the submitted proposal will fulfill the needs of the HEPAP Portfolio Review. Further, DOE/HEP encourages the proposers to include discussions of schedules and the run plan of the experiment in the proposal narrative — see for example, Section 2 on ‘Technical Information’ in the ‘Instructions for Proposers’ document).

Q11: Are there other items we should describe in our proposal to demonstrate the overall program and/or to put the HEP efforts in context?

A11: If relevant, you may wish to include the following in the narrative of the proposal and/or in the relevant appendices (as appropriate):

- Brief discussion of the collaboration model used for participation by a collaborator on the experiment;
- The fraction of HEP-supported FTEs relative to the FTEs within the entire experiment;
- HEP-supported responsibilities and how these are leveraged with other responsibilities (for example, the HEP-supported personnel that may be in charge of calibration or whether country ‘X’ is carrying out data processing responsibilities);
- Science goals of the experiment that may be of interest to the wider scientific community (outside of HEP), and how those goals are leveraged;
- Whether any national or international agreements and/or Memoranda of Understanding (MOUs) exist for the experimental program, including a brief summary of the scope of the agreements or MOUs; or
- HEP guidance that may already have been provided for funding profiles, operations schedules for the acquisition of data or supported responsibilities.

Q12: For our experiment, we have identified certain science and technology goals in the proposal and certain tasks (for e.g., ‘data preparation’) that are common among multiple goals. When completing the Effort Spreadsheet for Appendix B, how should we split the FTE levels for such common tasks across the different goals?

A12: There are multiple ways to provide the FTE levels for tasks that are common among different science and technology goals. One method is to list such tasks under each relevant goal. You may then provide one “total” FTE level for that task under each goal without any splitting. You are encouraged to explain in the proposal narrative that such a task is common across multiple goals and a total FTE count

is being reported. An alternate approach is to again list the task under each relevant goal and distribute the total FTE evenly across each goal. You should then explain in the proposal narrative that, for reporting purposes, the FTE level for the task was evenly divided among the different goals. Other ways of reporting the FTEs may also exist. In order to assist panelists during the review process, the key is to explain in the narrative the algorithm used when reporting the efforts for such tasks.

Q13: The Effort Spreadsheet in Appendix B of our proposal contains a column requesting the completion date for different tasks related to a science and technology goal. Some tasks for our experimental program are expected to continue for a period longer than the project period (2019-2022) that is under review. Should we indicate a date beyond 2022 for such tasks?

A13: It is recognized that some tasks (and goals) are long-term and go well beyond the review's project period end-date of 2022. Nevertheless, one key aspect of the HEPAP Portfolio Review is to evaluate accomplishments for your experimental program during the project period of 2019-2022. In the proposal narrative, you may discuss that certain tasks and goals are to continue beyond 2022. However, it is strongly encouraged to complete the Effort Spreadsheet by identifying what will be accomplished or delivered by the program during the project period under review.

Q14: The Effort Spreadsheet in Appendix B is in terms of different tasks corresponding to particular science and technology goals. When completing the Appendix B spreadsheet, should we provide data for those U.S. institutions that may work on a particular task for a science and technology goal but are not directly supported through a research grant from the DOE Office of HEP?

A14: For any tasks corresponding to a particular science and technology goal, the Effort Spreadsheet in Appendix B should provide effort data for only those institutions that receive base support through a research grant from the DOE Office of HEP. Therefore, while completing efforts for tasks under each goal, institutions that are supported outside of the DOE/HEP research portfolio should not be included. However, if other non-DOE sources of funding are leveraged by the DOE/HEP-supported groups, these may be included in the 'Comments' column of the spreadsheet, briefly describing the source and corresponding efforts.

Q15: We are completing the effort tables in Appendix A of the proposal. Some institutions on the experiment have received funds through either the DOE Science Undergraduate Laboratory Internship (SULI) or the DOE Office of Science Graduate Student Research (SCGSR) programs for areas supported through the DOE Office of HEP. Can we insert a row in the Appendix A tables with FTE data for either of these programs?

A15: The HEPAP Portfolio review is meant to evaluate scope and efforts supported by the DOE Office of HEP. Since a) the FTE levels related to undergraduate or graduate students through the DOE SULI or DOE SCGSR programs, respectively, are not anticipated to be significant when compared to the support received on the experiment from DOE/HEP, and b) the efforts support the **same** research area as those supported through DOE/HEP, you may provide such data by inserting one row for each in the Appendix A effort data sheet, clearly labeled as "Undergraduate – DOE SULI program" or "Graduate – DOE SCGSR program", respectively. No additional rows other than these two should be inserted into the tables for Appendix A.

Q16: Efforts for certain personnel in our experimental program are supported through Laboratory Directed Research and Development (LDRD) funds and/or the [generic particle] Detector R&D subprogram within the DOE Office of HEP. Can FTEs from these two sources be included in the Appendix A or B effort tables of the proposal? If so, in which of the two appendices can these be given?

A16: For the DOE/HEP-supported experimental program, you may include LDRD-supported efforts in the Appendix B Effort Spreadsheets under the 'Comments' column of the spreadsheet, briefly describing the source and type of support. In regards to support provided from the DOE/HEP Detector R&D subprogram, this may be included in the Appendix A tables. In doing so, to assist panelists evaluating the proposal, you are encouraged to provide a brief discussion in the proposal narrative describing the number of FTEs supported from the Detector R&D subprogram relative to those directly from the DOE/HEP experimental frontier.

Q17: While preparing our proposal for the HEPAP Portfolio Review, there are a number of junior investigators who aspire to receive DOE/HEP base research support sometime during the project period of the review (FY 2019-2022). These individuals are currently not receiving funds from DOE/HEP. However, can an estimate of their efforts be included in the proposal and the corresponding appendices? If so, what is the best approach for capturing these efforts?

A17: You may indicate in your proposal the work that is planned to be carried out over the project period of the review (FY 2019-2022) and discuss which particular groups are planning to lead the corresponding effort. If there are any critical efforts, these should be addressed with fallback or mitigation plans if certain groups will not be able to deliver on their responsibilities.

While completing the FTE tables of the Appendices, you may include the assumed level of effort from these yet-to-be-funded groups that will be required to deliver on the science and technology goals over the specific year(s) of the project period. In Appendix A, these can be listed in the existing categories related to university and/or national laboratory investigators. Subsequently, you are encouraged to discuss such FTEs, including any assumptions made, in the narrative in order for the panel to evaluate the data. No new category for such cases should be inserted in Appendix A. In Appendix B, once an individual task for a goal has been listed, the FTE-levels for these new groups/PIs not yet supported for the task can be provided, appropriately indicating their funding status in the 'Comments' column of the spreadsheet.

Q18: For the Main and LHC Subpanels, when are proposals due for the HEPAP Portfolio Review?

A18: Proposals are due to the DOE Office of HEP no later than 5 PM Eastern Time on February 1, 2018. Late submissions will not be accepted. Submissions, including all appendices, should be sent electronically to: SC-HEPPortfolioReview@science.doe.gov.