



Department of Energy  
Office of Science  
Washington, DC 20585

June 16, 2017

Professor Persis Drell  
Chair, Basic Energy Sciences Advisory Committee  
Provost  
Bldg 10  
Stanford University  
Stanford, California 94305

Dear Professor Drell:

I very much appreciate your assuming the position of Chair of the Basic Energy Sciences Advisory Committee (BESAC), effective April 1, 2017, for the duration of one year. I also want to express my sincere appreciation for your past contributions to BESAC, from leading the inaugural Committee of Visitors review for the Energy Frontier Research Centers and an Energy Innovation Hub, to bringing critical perspective of the international facility landscape to the BESAC prioritization study on future light sources.

I am writing to ask BESAC to produce, during the coming year, a report that commemorates the founding of the Basic Energy Sciences (BES) program four decades ago. The report should highlight a few outstanding examples of major scientific accomplishments emerging from BES support that have shaped the fields of BES research, with an eye toward learning from these examples to motivate BES investment strategies for the future. As history has shown, basic research advances have been the bedrock of American innovation and prosperity. These advances often gave rise to new lines of scientific inquiry and led to inventions of new technologies and industries that transformed our society. Breakthrough discoveries emerging from Federal investment can have broader impacts beyond the original field of scope and have made Federal programs, such as BES, an essential part of the Nation's Science & Technology strategy.

The BESAC 2007 and 2015 Grand Challenge reports have identified critical research opportunities for discovery science to understand, predict, and control matter and energy. By examining past successes, I expect the new BESAC charge report to illuminate the guiding strategies and approaches that will be key to ensuring future U.S. leadership, and more generally, U.S. leadership in the full range of disciplines stewarded by BES. Even more broadly, such a report will be timely to inform the future investment strategy for the Office of Science as it contributes to fulfillment of the Department of Energy's missions, especially in view of the Federal budget outlook. With these high-level objectives in mind, the report should provide technical details as needed for context but should be primarily concerned with the essence of each story as it relates to the larger progress of science.



I ask BESAC to consider the following questions in formulating the study plan:

- What are the major scientific accomplishments that have shaped the BES-supported disciplines in the past 40 years? How has BES contributed to these advances?
- What impacts have these advances had on the Department's missions in energy, environment, or security?
- What are the key aspects of the BES investment strategy that have had the greatest impacts?
- Looking to the future, and building on the Grand Challenge reports, identify research areas and funding strategies to pursue those areas that could further strengthen BES in serving the DOE's missions.

I would appreciate receiving a written report by July 31, 2018.

Sincerely,



J. Stephen Binkley  
Acting Director  
Office of Science

cc: Harriet Kung, SC-22  
Katie Runkles, SC-22