July 15, 2019

Dr. Chris Fall
Director, Office of Science
Department of Energy
1000 Independence Avenue SW
Washington, DC 20585

Dear Director Fall:

As you know, on June 14, the White House issued Executive Order (EO) 13875 – "Evaluating and Improving the Utility of Federal Advisory Committees." This EO requires each executive department and agency to evaluate the need for each of its non-statutory Federal Advisory Committees (FACs). After completing its review and no later than September 30, each agency is required to terminate at least one third of its non-statutory FACs or request a waiver from the Director of the Office of Management and Budget, as applicable.

It is our understanding that for the Department of Energy (DOE) to comply with this EO, it will be forced to eliminate one-third of the agency's 16 FACs, of which six are charged with directly advising the Office of Science. The American Physical Society (APS) and the American Association for the Advancement of Science (AAAS) have serious concerns with the potential elimination of any of the six Office of Science FACs.

In evaluating how to best implement EO 13875, APS and AAAS urge DOE to recognize the essential role the Office of Science FACs play in supporting DOE's mission "to ensure America's security and prosperity by addressing its energy, environmental and nuclear challenges through transformative science and technology solutions."

The Office of Science FACs, for example, have been critical to DOE's stewardship of its world-class scientific user facilities, the largest collection of facilities operated by a single entity in the world. For the past several decades, the Office of Science FACs have engaged the scientific community in planning, assessment, ranking, and prioritization of the scientific user facilities – processes that must be executed in ways that are open, fair and transparent. By doing so, the FACs have provided consensus advice to the DOE in the form of definitive written reports. All such reports are publicly available and are archived on the appropriate Office of Science advisory committee web pages. Moreover, the reports are viewed by Administrations and Congress as the gold standard for facility-related actions.

In many cases, FAC reports have changed the course of Office of Science's plans – sometimes dramatically – and the recommendations have been immediately accepted by the Executive Branch and by Congress. The importance of the advisory committees simply cannot be overstated. Without them, the course of scientific user facilities would have been very different, almost certainly leaving the U.S. in a position of weakness vis-à-vis international competition.

The short list of examples – which is by no means exhaustive – provided below illustrates the tremendous impact the Office of Science FACs have on DOE's research facilities and activities. It is again important to emphasize that all of the Office of Science FACs are non-statutory.

- **The Advanced Scientific Computing Advisory Committee (ASCAC)** has played an outsized role in the development of the Exascale Computing Initiative (ECI) and the Exascale Computing Project

(ECP), helping to shape both the initiative and the project during the last decade. Most recently, ASCAC reviewed the conceptual design for the ECI and assessed whether there are gaps in the ECI plan or areas that needed to be given priority or extra management attention. While strongly endorsing the well-developed ECI/ECP, **ASCAC made several suggestions and recommendations to help improve the management and execution plan, identify and manage risks and prioritize needs.**

- **The High Energy Physics Advisory Committee (HEPAP) and its standing subcommittee, the Particle Physics Project Prioritization Panel (P5)** have been used extensively to provide advice on specific facilities and to generate long-range plans, particularly plans that relate to construction projects and the resulting user facilities. In 2014, for example, the HEPAP-P5 study, *Building for Discovery: Strategic Plan for U.S. Particle Physics in the Global Context*, **redirected the future of the High Energy Physics Program.** The recommendations from this study were bold, visionary and a complete change from the then ongoing plans for neutrino physics; the recommendations were accepted by the entire particle physics community, which had not been unified since the demise of the Superconducting Super Collider two decades before. **The report represented an important change in the proposed directions of the particle physics community, a change that was immediately accepted by both the Administration and Congress.**

- **The Nuclear Science Advisory Committee (NSAC)** has been used extensively to provide advice on specific facilities and to generate long-range plans. In 2015, the NSAC study, *Reaching for the Horizon, the 2015 Long Range Plan for Nuclear Science*, recommended the next major facility for nuclear science, a high-energy, high-luminosity, polarized Electron-Ion Collider (EIC). **Importantly, the report established for the first time the critical technical specifications of the EIC, and these specifications were later reaffirmed in their entirety in the 2018 National Academies report *An Assessment of U.S.-Based Electron-Ion Collider Science*.** These specifications will now serve to differentiate among various proposed configurations for the new machine.

- **The Fusion Energy Sciences Advisory Committee (FESAC)** has provided critical, independent advice to the Office of Science on issues of science and technology that arise in the planning, implementation, and management of the FES program. **A current role of FESAC is to provide advice in responding to Congressional direction** in the FY19 DOE Research and Innovation Act, H.R. 589; language there directs DOE as follows: "Not later than 2 years after the date of enactment of this Act, the Secretary shall submit to Congress a report on the fusion energy research and development activities that the Department proposes to carry out over the 10-year period following the date of the report under not fewer than 3 realistic budget scenarios, including a scenario based on 3-percent annual growth in the non-ITER portion of the budget for fusion energy research and development activities."

- **The Basic Energy Sciences Advisory Committee (BESAC)** has been used extensively over several decades to help with planning, assessment, ranking, and prioritization of facilities used primarily for the characterization and fabrication of materials of all kinds. Frequently, BESAC has been asked to assess and prioritize facilities of like or similar kind, *e.g.*, light sources or the combination of light sources and neutron sources. **During the past five years, BESAC delivered two reports that redirected the course of facilities, and like the HEPAP study noted above, the results were quickly accepted by the Administration and Congress.**

  The first of these two BESAC studies was the *2013 Future X-Ray Light Sources* study, prompted by the desire of the Director of the Office of Science, Bill Brinkman, to seek an assessment of the several proposed light source upgrades and new light sources prior to making investments beyond those for preliminary scoping studies. **The short letter report by BESAC fundamentally redirected the then**

**ongoing plans for X-ray light source upgrades, including the Advanced Photon Source Upgrade project and the Linac Coherent Light Source-II project.**

The second of these studies was the *2016 Future Facility Upgrade Assessment* study, which was requested in the Consolidated Appropriations Act of 2016, directed BESAC to "… update its assessment of the proposed upgrades to x-ray scattering facilities (both free-electron laser-based sources and ring-based sources) and to the Spallation Neutron Source (SNS) using the same criteria that were used in prior studies—the ability of a proposed upgrade or construction project to contribute to world leading science and the readiness of the upgrade or construction project to proceed to construction—and the same rating system." The short letter report gave the highest possible marks to the APS-U, the ALS-U, and the new LCLS-II high energy (LCLS-II-HE) projects. The SNS Proton Power Upgrade and Second Target Station were rated in the top category for science impact and in the second category (significant scientific/engineering challenges to resolve before initiating construction) for readiness to proceed. **Once again, the Administration and Congress accepted these recommendations. Since the time of that report, the SNS issues have been resolved, and all of the projects now have funding for R&D, design, and/or construction.**

As outlined above, the Office of Science FACs continually make significant contributions to DOE and the U.S. scientific enterprise, including:

- providing invaluable advice that helps enable the U.S. to maintain its global leadership in research and development;
- establishing consensus across the scientific community on priorities and goals; and
- ensuring essential voices – who would otherwise not have been consulted, including experts from industry, other federal agencies and academia – are involved in providing input and evaluating the direction of DOE research.

While we appreciate that EO 13875 aims to create greater efficiencies at all agencies, including DOE, the elimination of any of the six Office of Science FACs would be counterproductive. As demonstrated above, the Office of Science FACs have a strong record of clearly advancing DOE priorities, serving the public good, and enhancing – not diminishing – the efficiency of the Office of Science.

Given these essential contributions of the Office of Science FACs to the DOE scientific and research mission, we urge that the six Office of Science Advisory Committees be retained, and certainly the current scope and functions of all six committees must be maintained.

Thank you for your consideration.

Sincerely,

American Association for the Advancement of Science
American Physical Society