

BER Response to the Report of the BERAC Committee of Visitors Review of the Climate and Environmental Sciences Division

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Introduction

The Committee of Visitors (COV) reviewed the Climate and Environmental Sciences Division (CESD) in the Office of Biological and Environmental Research (BER) for the period October 1, 2009 through September 30, 2012 (Fiscal Years 2010, 2011, and 2012), including the processes used to create and manage the research portfolio. The COV presented findings and recommendations in a report presented to the Biological and Environmental Research Advisory Committee on October 28, 2013. The report provided helpful recommendations and constructive comments for the management of the programs in the division, that comprise a wide range of scientific programs and research projects and two major national user facilities. Additional special portfolio elements are comprised by research efforts at the DOE National Laboratories, much of which is organized into team-based Scientific Focus Areas (SFAs).

BER has compiled the following responses to specific COV recommendations; although some responses are specific to CESD, others apply more generally to business practices for all of BER.

Responses to Comments and Recommendations

COV Recommendation	Program Response	Action Plan
Key General Recommendations		
Maintain flexibility and balance in funding to allow both Scientific Focus Areas (SFAs) and exploratory or cutting edge research by individual PIs at the Labs. Reduce administrative burden placed on SFA teams by reviews, especially for projects where the most recent reviews are excellent.	BER acknowledges the importance and value of flexibility and balance in funding at the National Laboratories and the critical role of merit review. Scientific Focus Areas (SFA) are, by design, intended to be dynamic funding mechanisms enabling and encouraging SFAs to maintain a focus on leading edge research, including exploratory research.	BER will continue to encourage the National Laboratories to take full advantage of the stated goals of the SFA funding mechanism. BER will work to minimize the administrative burden on all SFA teams while maintaining the integrity of the merit review process that is a critical part of the program's robustness and success.
Current balance of lab and university research is appropriate. Maintain this approximate balance in the future.	BER appreciates this feedback on the overall CESD portfolio balance across National Laboratories and universities.	BER will continue efforts to maintain an appropriate balance across National Laboratories and universities.
Increase travel funds to allow Program Managers to attend scientific meetings.	BER agrees in the importance of engaging the national and international scientific communities to maintain both scientific leadership and currency.	BER will continue work with DOE management to maximize and optimize Program Manager participation in national and international scientific meetings.
Improve DOE electronic grant information system to better assist Program Managers and support staff for project management.	BER is enthusiastic about upcoming Office of Science improvements in electronic grants management.	The first phases of the Office of Science Portfolio Analysis and Management System (PAMS) are coming on line in November 2013. Additional phases will become operational in the coming years, increasing overall grants management efficiency for Program Managers and future COVs.
Develop program-wide metrics of performance and progress in addition to the quantitative measure of publications.	BER acknowledges the value of program-wide metrics of performance and progress as effective tools for Program Management.	BER will establish a working group of Program Managers across all of BER to identify metrics that are effectively used by other DOE programs

		and across agencies for possible development of metrics of BER-wide metrics of performance and progress beyond scientific publications.
Program Managers should continue to engage the science community to set priorities and to maintain the proper balance of protecting legacy datasets and acquiring new instruments at BER user facilities.	BER acknowledges the importance and value of engaging the scientific community in identifying key research needs and gaps at its scientific user facilities and in ensuring the availability of key scientific data.	BER will continue to engage the scientific community through workshops and Principal Investigator meetings to identify key research needs and gaps at user facilities and for data.
Key Climate Modeling (ESM, RGCM, IAR) Recommendations		
The Community Earth System Model and its component models are DOE's highly leveraged assets and the single most important element contributing to DOE's international leadership. DOE should maintain its proactive collaborations with the university community and its investments in CESM activities.	BER acknowledges the diversity of expertise, including scientists in the university community, required to develop the Community Earth System Model.	BER will continue to develop strategies to best use the vast resources of the National Laboratories and within the university community to rapidly advance development of the Community Earth System Model to best meet DOE and national needs.
Given the maturity of the (MIT) Integrated Assessment Research program the option of considering a Cooperative Agreement that would create a longer-term, merit reviewed, funding arrangement should be considered.	BER acknowledges the maturity of the Integrated Assessment Research project at MIT. All BER-funded research and user facilities are regularly reviewed regardless of whether funded for the short or long term. Cooperative agreements are essentially grants with special conditions that give DOE a greater role in the grant but no guarantee of longer term funding.	BER will continue to manage all of its research projects and user facilities, including those with both short and long durations, using a system of regular merit review. BER has initiated the steps to convert the MIT project from a grant to a Cooperative Agreement.
Key Terrestrial Ecosystem Science Recommendation		
Other federal agencies should be engaged to address how voids in ecosystem and carbon cycle research at DOE, including managed	BER acknowledges the value of working across federal agencies to coordinate complementary research programs.	BER Program Managers will continue to coordinate activities and leverage opportunities provided by other agencies through formal

ecosystems and oceans, can be filled and information about these Earth system elements be included in DOE modeling efforts.		mechanisms such as legislated committees, the Office of Science and Technology Policy and informal interagency working groups.
Key Subsurface Biogeochemical Research Recommendation		
The Subsurface Biogeochemical Research Program program should maintain its expertise and research activities in radionuclide research.	BER acknowledges the key scientific role that it has played in the understanding of the fate and transport of subsurface radionuclides. These same fundamental scientific principles are also being used to understand the behavior of nutrients and carbon in the subsurface.	BER will maintain expertise and research on the fate and transport of subsurface radionuclides as part of its Subsurface Biogeochemical Research Program as it works in parallel to leverage the knowledge gained to better understand other important subsurface processes..
Key ARM Climate Research Facility Recommendations		
The ARM Climate Research Facility should continue the development of “best estimate” data sets.	BER acknowledges the value of these ARM data sets.	BER will continue to develop these data sets as part of the ARM Climate Research Facility.
Scientific input from the Science and Infrastructure Steering Committee (SISC) and the Infrastructure Management Board (IMB) should be better documented and included in proposal files so that the history and reasons for specific actions can be more easily tracked.	BER welcomes suggestions to improve the management processes applicable to the ARM facility.	BER will improve its documentation of scientific input as part of the operation and management of the ARM Climate Research Facility.
Proposals should have a succinct summary of previous activities with a focus on critical events and achievements to improve and built institutional memory.	BER welcomes suggestions to improve the management processes applicable to the ARM facility.	BER will request that future proposals for ARM Climate Research Facility campaigns include a succinct summary of previous activities with a focus on critical events and achievements.
Key Environmental Molecular Sciences Laboratory (EMSL) Recommendation		
The Environmental Molecular Sciences Laboratory (EMSL) should continue to increase the user pool, especially to attract new investigators.	BER acknowledges the value of continuing to expand the pool of users at its scientific user facilities.	BER will continue to work with EMSL to encourage the expansion of it pool of users, especially new users. This is a metric of EMSL performance.