



*Office of Basic Energy Sciences
Office of Science
U.S. Department of Energy*



Basic Energy Sciences Update

*Dr. Patricia M. Dehmer
Director, Office of Basic Energy Sciences
Office of Science
U.S. Department of Energy*

6 December 2004

BES response to BESAC DSUF COV

DSUF COV Response

Basic Energy Sciences (BES) Response to the Report of the Basic Energy Sciences Advisory Committee Committee of Visitors (COV) Review of the BES Division of Scientific User Facilities (DSUF)

	COV Comment/Recommendation	BES Response
1	<p>Documentation for COV reviews: For future COV reviews of the Facilities Division, the history presentation should contain Timelines of the Review history for each Facility or Center. Each Timeline should take the form: <i>Review->Recommendations->Results (including the written response to the COV/BESAC)[->Re-Review and its Results, when necessary]</i></p>	BES will implement this suggestion for the next COV of the DSUF
2	<p>Documentation for facility peer reviews: In the front of the jacket for the most recent review for each facility, it would be useful to have a brief document that records the review history for the facility. This would include the dates of the reviews, review findings, laboratory response to the findings, and significant actions taken by BES and/or the laboratory in response to those findings, e.g., re-reviews, changes in funding, personnel, facility direction, etc. Cross-references to the full jacket for previous reviews would also be useful.</p>	BES will consider what level of review of reviews is appropriate as we begin the next round of light-source reviews in January 2005.
3	<p>Documentation for facility peer reviews: The review file should contain an Executive Summary that accurately reflects the substance and tone of the entire document.</p>	The Program Manager's memorandum to file provides a summary of the review. This document will be a standard component of the review file.
4	<p>Documentation/followup to facility peer reviews: BES should prepare and distribute letter responses to the reviews. The distribution should include the management of the facility being reviewed as well as the upper management of the host institution of the facility. Action items should be identified and a further response requested from the facility.</p>	A letter report to the facility director from the Director of the Scientific User Facilities Division that includes action items and corresponding due dates is standard practice. In the case of facility reviews, the letter is copied to upper management of the laboratory.
5	<p>Interaction with reviewers: If possible, copies of the BES and facility responses should be distributed to the review committee. If it is not possible to send the full documentation, then a letter to the committee stating in general terms the facts of the responses and outcomes would give a sense of action to the committee.</p>	BES will send "thank you" letters to reviewers following the review and provide as much information on the outcome as is appropriate. Note, though, that BES does not provide details of a review to reviewers.

DSUF COV Response

6	<p>Interaction with reviewers: In the case of facilities reviews that are not carried out by a BESAC subcommittee, the individual reviews are generally sent verbatim to the facility. The reviewers should be informed that this is the case, and that in the future a Committee of Visitors will have access to the individual reports.</p>	BES will heretofore inform reviewers that COVs will have access to the individual reports.
7	<p>Facility management: ... the committee felt strongly that it was crucial to have a clear and current definition of who exactly is a user.</p>	In late 2004, BES reinstated its irregularly held Facility Directors' Meetings. The meeting was held August 19-20, 2004. The topics of discussion were updates to the Annual Facilities Questionnaire and the formulation of a new model for quantifying facility utilization. This model attempts to quantify staffing quality and instrument quality, and it is being developed with the cooperation of OMB and OSTP. Henceforth, Facility Directors' Meetings will be on a regular basis. The agenda of the meetings will be set by the Director of the Scientific User Facilities Division in consultation with the Facility Directors and will cover issues of common concern.
8	<p>Facility management: Evaluation of the success of facilities is now being done on the basis of quantifiable metrics. ... These metrics should be periodically examined and input from the facility directors taken into consideration. ...</p>	See response to #7.
9	<p>Review procedures: The COV is concerned that limited travel funds are restricting participation of scientific program managers in facility reviews. In our view, close coordination with the science programs is essential to success. In fact, the scientific program managers are essential stakeholders in the scientific user facilities.</p>	BES has set a policy that encourages at least one senior program manager from each of the BES research divisions (i.e., the Division of Materials Sciences and Engineering and the Division of Chemical Sciences, Geosciences, and Biosciences) to attend each facility review. Limited travel budgets are indeed an impediment to carrying out this policy fully.
10	<p>Review procedures: BES should think critically about the Metrics that it requires from the facilities in preparation for the review process, since a large amount of effort may be required in the production of a parameter that may not provide a useful evaluation of the performance of a facility. A survey of users of the facility should be required, to be carried out by the users committees, which should contain at least some prescribed items, and a summary of the users' responses should be available well before the time of the review.</p>	BES requires the facility to conduct a survey of the users as part of the BES annual facilities questionnaire. The results of these surveys are provided to reviewers. BES will encourage the users committees to conduct their own surveys and provide those results to our reviewers, but BES cannot require such an activity. We have no jurisdiction over user committee organizations.

DSUF COV Response

11	<p>Review procedures: The reviews should be structured on a less tight schedule, so that there is considerably more time for executive discussions within the review committee, even at the expense of time for formal scientific presentations. More emphasis should be given to the strategic plans of the facility management, and to the interaction of the facilities with the overall laboratory strategic plans and goals.</p>	DSUF will implement these recommendations beginning with its next round of reviews, i.e., the reviews of the synchrotron radiation light sources in calendar year 2005.
12	<p>Review procedures: Time should be set aside during the review for the review committee members to have the opportunity for informal interactions with users, and facility staff, in particular junior staff.</p>	See response to #11.
13	<p>Review procedures: If the review report indicates serious deficiencies in the functioning of a facility, we would suggest that in addition to requiring that the facility provide a formal, written response to the criticisms and required action items, the facility should be re-reviewed within a short time.</p>	Re-reviews prior to the next regular triennial review are standard practice if serious deficiencies are noted in a review.
14	<p>Review procedures: In addition to allocating more time for Executive Discussions during the review, the committee felt that specific time should be set aside during a review for presentation <i>and discussion</i> of individual-laboratory-related issues. Typically, at present, a presentation is given on these issues but the discussion time for that area is rather limited.</p>	Laboratory-wide issues might be addressed as be part of overview presentations provided by the facility director or the laboratory director; however, more generally, the facility reviews are not constituted in a way to address laboratory-wide issues and it is not the responsibility of such a committee to report on such issues.
15	<p>Nanoscale Science Research Centers: The five nanoscale science research centers (NSRC), currently being built simultaneously, represent the newest class of User Facilities funded by BES. As such, there is a unique opportunity to encourage (require) cooperation and collaboration amongst the centers, especially since they plan to have similar as well as complementary instruments. We thus strongly recommend that BES encourage the centers to establish processes amongst themselves in order to cooperate and collaborate scientifically and to formalize a process that will allow users to utilize more than one of the five facilities if needed for their research.</p>	BES has encouraged and required cooperation and coordination among the five Nanoscale Science Research Centers. We have had several half-day meetings of the NSRC Directors to begin to standardize and coordinate among them. A longer meeting was held August 2-4, 2004 to discuss a variety of management issues including: coordination and standardization in all aspects of management and operations; user access and user modes; metrics for success; peer review processes; staffing and budgeting, including recapitalization; intellectual property; and ethical, legal, social issues. BES will continue to hold short (half-day) meetings one to two times a year as well as longer meetings as necessary. Ensuring a smooth transition of the NSRCs from construction to operation is one of our highest priorities.

DSUF COV Response

<p>16</p>	<p>Nanoscale Science Research Centers: We also strongly recommend <i>broad users'</i> input at all stages of the construction of the five centers, since they are designated as national user facilities. The involvement of the users should be sought while the facilities are designed, built, evolve and mature, since this input can contribute significant aspects that may not be relevant after the facilities are built. We also recommend that satisfaction polls/surveys of the nanoscale research community be conducted at workshops and users meetings of all five centers at least once a year to provide timely feedback to each facility as well as to BES reviews of the facilities.</p>	<p>The NSRCs have held regular user meetings since the time of the concept inception. Before construction of any of the NSRCs had begun, the NSRCs had meetings that attracted nearly 2,000 prospective users. These workshops and meetings continue on a regular basis.</p> <p>All BES facilities are required to have annual user satisfaction surveys. The format of these surveys was discussed at our recent Facility Directors' meeting.</p>
<p>17</p>	<p>Nanoscale Science Research Centers: Key elements in locating NSRCs at specific national laboratories were the well-established expertise at the laboratories in scientific areas relevant to nanoscience and the existence of national x-ray and neutron sources and electron microscopy facilities that are critical for the characterization of nanostructured materials. While efforts to organize the centers are well underway, it was evident from our review that formal relationships between existing programs and facilities with the NSRCs were not in place. At this stage in the development of the NSRCs, it is appropriate to formalize the responsibilities and commitments of the laboratories to the centers, and <i>vice versa</i>, memoranda of understanding need to be set in place. These MOU's should clearly define the access of the users of the NSRCs to facilities at the laboratories, including instrumentation and laboratory space, and the access of the host laboratories to the facilities within the NSRCs. Formalizing these interactions is essential to distinguish the program associated with the NSRCs from the core programs at the laboratories.</p>	<p>The development of MOUs between NSRCs and host institution capabilities will be a subject at a forthcoming NSRC Directors' meeting. It has already been discussed with the NSRCs at the time of construction reviews.</p>
<p>18</p>	<p>Nanoscale Science Research Centers: The NSRC program has, from the beginning, been designed to develop a national resource, establishing a user program to provide the research community immediate access to emerging capabilities in the area of nanoscience. As a national resource, this program requires co-ordination between the laboratories, so as to optimize the use of the facilities and maximize the output of scientific and technological advances. Each center is located at a laboratory with a distinct expertise and unique characterization capabilities. Efforts need to be made to institute an integrated national system that is transparent to the user and independent of any particular NSRC.</p>	<p>See #16.</p>

DSUF COV Response

19	Nanoscale Science Research Centers: An additional concern of the COV was the manner in which the centers will integrate into the core programs at the DOE and how the research endeavors at the NSRCs can best serve the mission of the DOE. This requires a scrutiny of the management of the centers, the integration of the NSRCs with the laboratories, and an alignment of the overall objective and mission of the centers with the core programs. This would serve to optimize the use of limited funds available for research and instrumentation, facilitate advances in the core programs, and formulate a broad user base for the NSRCs. Research efforts at the centers span all divisions in BES and coordination with and integration into the core programs will leverage available resources.	Coordination of research activities between that ongoing in the NSRCs and that elsewhere in the host laboratories was a topic of discussion at the August 2-4, 2004 meeting. In particular, mechanisms for cross appointments and joint appointments were discussed. More broadly, the NSRCs were intended to build on expertise and unique facilities at the host laboratories, and that is evident at all of the NSRCs.
20		BES Comment: BES will modify the report template for COVs so that findings and recommendations are more easily tracked.