

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

Date of COV: April 6-8, 2010

Date of Response: December 16, 2010

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	COV Recommendations/Comments	BES Responses
	General	
1	As the budget allows, continue to explore ways to establish theory programs at existing facilities where they do not exist. In the view of the COV, this is a highly cost-effective way to make the facilities even more productive.	BES concurs with the COV recommendation and will continue to explore ways to expand theory activities at BES facilities pending funding availability.
2	<ul style="list-style-type: none"> a) COV timing: Avoid repeated coincidence with the cycle of nanocenter reviews b) At the first breakout session of the COV subpanels, schedule a brief update by the cognizant SUFD program manager for the facility type being assessed c) Consider making the documentation available in the future in electronic form d) Consider holding the COV meeting off-site 	<ul style="list-style-type: none"> a) BES concurs with the COV recommendation and will consider altering the SUFD facility review cycle schedules prior to the 2013 COV. b) BES concurs and will implement this recommendation at the next COV. c) All SUFD documentation is already in electronic form. We will consider supplying COV documentation in an electronic format provided that all DOE information management requirements can be satisfied. d) Holding COV off-site is not a practical option currently for logistics reasons.
3	<ul style="list-style-type: none"> a) As part of future 3 year reviews, ask the facilities how previous recommendations have been implemented b) Provide the facilities with the questions directed to reviewers 	<ul style="list-style-type: none"> a) BES concurs with the COV recommendation. The previous reports will be included in future COV documentation to be provided to the members prior to the review. b) BES concurs and will implement the recommendation in future

	<ul style="list-style-type: none"> c) Further diversify the types of organizations the reviewers are drawn from, including industry representatives. d) Establish a uniform definition of publications and high impact publications. e) Establish a uniform definition of off-site users f) Ask reviewers to summarize major findings and recommendations at the beginning of their report 	<p>reviews.</p> <ul style="list-style-type: none"> c) BES concurs with the recommendation and has already started to draw reviewers from diverse organizations, including industry. d) BES concurs with the recommendation and has already started to interact with the facilities to establish a clear definition of high impact publications. e) BES has established a clear definition of off-site users. f) BES concurs and is implementing this recommendation.
4	<ul style="list-style-type: none"> a) Request an annual listing of publications and currently available equipment from all facilities b) Place added emphasis on maintaining state-of-the-art experimental apparatus, sample environment and software at all facilities to maximize scientific productivity c) Foster a pipeline of instrumentation, accelerator, detector experts d) Encourage more outreach to train present and future users in the use of the facilities e) Increase the SUFD Program Managers' travel- budget so as to be commensurate with the mission of the BES SUFD. f) Provide additional office space for the SUFD. 	<ul style="list-style-type: none"> a) SUFD already requests such information annually. b) BES concurs with the recommendation. c) BES agrees and has started to address this issue through its research support at universities and laboratories. d) BES concurs with the COV recommendation and will continue to engage the facilities in outreach and training efforts. e) BES concurs with the recommendation and will continue to work with SC management to seek increases in travel funding for program managers. f) BES concurs with the COV recommendation and is in the process of requesting more space to accommodate the space needs of the staff.
Synchrotron Light Sources		

5	<ul style="list-style-type: none"> a) A more balanced representation of the user and instrument communities on the review panels is recommended. b) The metric for “high impact” publications should be based on a field-dependent impact factor of the journal rather than specific journal names. The metric should be uniform among all facilities. c) A documented official letter of response should be provided to "closeout" the review (within a fixed period of receipt by facility director of guidance letter from SUFD). d) The facility review should begin with a summary of how the facility addressed the recommendations from the prior review. e) The previous COV discussed splitting the facility reviews into science and operations reviews because on the larger facilities the scope of the review was too large. We do not concur with this suggestion. We noted that all reviewers are given the same charge. Possibly subdividing the responsibilities of the reviewers could better meet the need to have an integrated review but at a manageable level. f) Supplement the single metric of “user” with those of “research participant” as successfully used by the NIST Center for Neutron Research (co-proposers and co-authors of publications). g) Specifically request that the quality of the end stations/experimental facilities available to the users be part of the review process. Now that in many light sources the beamlines are facility owned and operated this responsibility falls under the purview of the light source and should be included in the review. 	<p>BES concurs with all of the recommendations in 5 (a – e) and (g) and has already been implementing many of them within the current process, including the publication, response letter, and addressing the quality of the experimental stations at light sources.</p> <p>f) BES is aware of the user definition of NIST Center for Neutron Research and will consider it as a reference as BES evolves the user definitions for all facilities in the future.</p>
Neutron Sources		
6	<ul style="list-style-type: none"> a) In instrument planning in reviews, and in defining completion of an instrument project, give more attention to the full set of requirements for scientific productivity, especially including software and sample environments. b) Consider introducing a supplementary metric, intended to reflect facility impact that would include not only on-site facility users, but also collaborators on successful proposals and coauthors on resulting publications, counting any name no more than once per 	<p>BES concurs with recommendations in (a – d) and is in the process of implementing these procedures in the forthcoming reviews.</p>

	<p>year.</p> <p>c) Consider providing to BES review teams copies of the previous review executive summary and the synopsis of review committee comments to use as a baseline for evaluating progress since the last review.</p> <p>d) Research highlights should emphasize those experiments which can not be done by any other techniques, and explain why these experiments are important.</p>	
Nanoscale Science Research Centers		
7	<p>a) DOE should use a specific set of guidelines, including a section for general comments, for the panelists in order to structure their individual written reviews.</p> <p>b) Metrics should be substantive such as solid, archival publications, patents, economic development (e.g., start ups, licenses, technological success), the scientific successes of users, honors and awards, invitations to major meetings, and leadership in national and international professional organizations.</p> <p>c) Include a list of capital requests and “awards” made to each NRSC in the program jacket.</p> <p>d) Clearly delineate the career path for the young scientific staff.</p> <p>e) The original mission of NSRCs should be maintained since these provide a crucial ingredient to carry out the mission of the DOE.</p> <p>f) Continue to strengthen the engagement of industry in the NSRCs.</p> <p>g) Develop a clear total cost recovery process for proprietary users.</p> <p>h) Include industrial users in proposal evaluation</p>	<p>a-c) BES concurs with the recommendations and is in the process of implementing the recommendations (a-c) in the annual reporting and in the triennial reviews.</p> <p>d) BES recognizes the importance of delineating career paths for all scientific staff at the facilities. The Department has started an the Early Career Research Program that is already benefitting early career staff at the NSRCs.</p> <p>e) BES concurs with the recommendation and plans to maintain and continue with the original mission of the NSRCs.</p> <p>f) The facilities are already addressing the issue of having industrial representatives in the proposals evaluation panels.</p> <p>g) BES will continue to adhere to the rules and requirements of the Department of Energy regarding cost recovery for proprietary usage at BES facilities.</p> <p>h) BES concurs and has already started implementing the recommendation.</p>
Electron Beam Microcharacterization Centers		
8	<p>a) Time on the instruments should be distributed in a more equitable and transparent way.</p>	<p>BES concurs with the recommendations and has started to address all the issues raised by the COV concerning the Electron Microscopy</p>

	<ul style="list-style-type: none"> b) The response of the facilities to the request for information in advance of the reviews needs to be more in line with the request c) The facilities should broaden their user base d) The instrumentation and mission of the centers should be high-end microscopy. Although some users are demanding more routine equipment this should be avoided. The nanocenters can fill the gap of equipment for routine examination. e) An effort should be made to develop theoretical capabilities. f) It is important to make the charge of the reviewers consistent with the information requested to the facility director. g) The three centers need to establish their own identities. Rather than acquiring the same hardware and capabilities a unique capability should be developed in each one. 	Centers.
Accelerator and Detector Research		
9	<ul style="list-style-type: none"> a) The procedures for treating R&D proposals from universities and DOE labs should be made as similar as possible. A proposal template would facilitate achievement of this goal. b) Continuing the process of making review, funding and reporting requirements more rigorous and even-handed between universities and labs is encouraged c) The use of the SBIR resource has been pursued assiduously. It is recommended that when the “final” reports from the 2009 SBIR awards are available that a thorough review of the net result be made to determine the net value to the Program. d) As the portfolio strategy develops, the use of solicitations to enhance areas of particular focus for the Program should be carefully examined. Possible examples include (a) the current need for alternatives to ³He based neutron detectors, (b) hard x-ray imaging detectors, or (c) determination of the rf-superheating field of MgB₂. It is important that a significant portion of the supported work be the result of unsolicited proposals to avoid over-constraint of the Program. e) Given that many of the accelerator and detector advances today are being made in Europe, the Program can derive great benefit by seeing the European accelerator and detector scene on the ground in the leading European laboratories. This experience 	<ul style="list-style-type: none"> a) BES concurs and is in the process of developing a uniform format for all laboratories for all proposal submissions and evaluations. b-g) BES concurs with these recommendations. We plan to address all these points at the next COV; we had already implemented all these procedures prior to this COV.

	<p>will not only reveal what the competition is doing, but also provide contacts for reviewers of the frontier work that the DOE Program aspires to support.</p> <p>f) While reviewer comments are summarized and transmitted to the PI's in the case of declined proposals, this summary is not supplied for accepted proposals. Doing the same for accepted proposals could provide useful information and ideas to the PI's of accepted proposals.</p> <p>g) For renewal applications it would be most helpful to proposal reviewers if the last annual report of the original proposal is included in the review package so progress achieved can be evaluated.</p> <p>h) As the portfolio strategy develops the balance between detector and accelerator R&D support as well as the balance among short, medium and long term R&D must be dealt with. The interface between work supported as part of facility development connected with operations and the R&D supported by this Program will also need serious consideration</p>	<p>h) BES concurs with the recommendations. As an initial step to address the recommendation a meeting was organized where issues addressing the integration of accelerator physics R&D and facility operations were discussed.</p>
Construction Projects and MIEs		
10	<p>a) Examine Work Force Development options and implement one or more as appropriate to maintain successful CMIE delivery.</p> <p>b) Improve efficacy of future COVs in the Construction project and MIE component through consolidated presentation of the most COV-charge-relevant information.</p> <p>c) SUFD be prepared at the next COV to present in detail planning and funding actions in support of project initialization phase (pre CD-0 thru CD-1/2.)</p> <p>d) SUFD should define a post-construction transition process that results in definitive plans with projects and managing contractors for realizing uniform expectations by all stakeholders for scientific output following CD-4.</p>	<p>a-c) BES concurs with the recommendations. While we had already implemented these procedures prior to the COV, it seems that the files did not reflect it.</p> <p>d) BES conducts an operation/commissioning review following the CD-4 completion. This review is led by the program manager overseeing the operations of the facility and is designed to assess the readiness of transition to operation. BES will ensure that such reviews be conducted for all projects post CD-4 to facilitate the successful transition to operations.</p>