



Department of Energy
Office of Science
Washington, DC 20585

Office of the Director

January 14, 2005

Dr. Keith O. Hodgson
Director, Stanford Synchrotron Radiation Laboratory
Department of Chemistry
Stanford University
Stanford, California 94305

Dear Dr Hodgson: *Keith*

The Biological and Environmental Research (BER) program provides substantial funding for each of the DOE's four synchrotron light sources to support access to the most advanced light source capabilities by the national structural molecular biology community. In Fiscal Year 2005, a total of more than \$14 million is being provided for operation of beam lines and research into new technologies. This support provides access to instrumentation for crystallography, spectroscopy, microscopy and small-angle scattering using x-rays, as well as for spectroscopy in the ultraviolet region of the electromagnetic spectrum and spectromicroscopy in the infrared region.

BER, in general, supports only one program in a given technology at each light source. However, there is the potential for establishing more than one program in the more widely used technologies, such as crystallography or x-ray spectroscopy, as many beamlines at the DOE light sources are suitable for experiments using these techniques.

I am asking the Biological and Environmental Research Advisory Committee (BERAC) to establish a subcommittee with broad expertise in the application of light source-based technologies in structural molecular biology and am charging BERAC to provide me with advice on the following:

- What would be the advantages and disadvantages of establishing more than one program in a particular technology at one of the Department's light sources? What priority should the BER program give to duplicating existing well-developed technologies at a light source relative to supporting research in light source techniques that are in earlier stages of development?
- In discussing this issue, I would like BERAC to specifically comment on the potential rationale for supporting the further development of the X4A and X4C beam lines at the National Synchrotron Light Source within the BER structural biology portfolio.



I request that BERAC report on its findings and recommendations at the April 20-21, 2005, meeting of BERAC.

Sincerely,

A handwritten signature in dark ink, appearing to read "Ray", written in a cursive style.

Raymond L. Orbach
Director

cc: Ari Patrinos, BER