



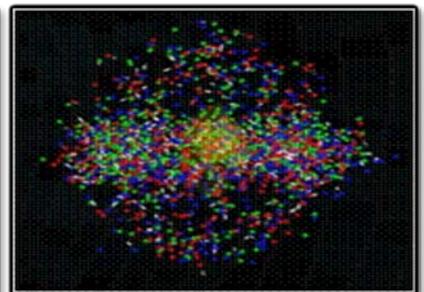
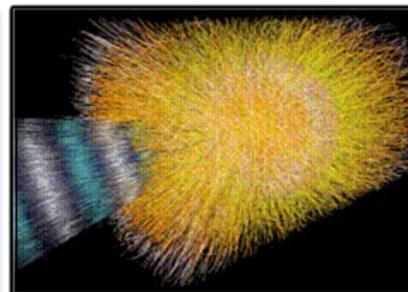
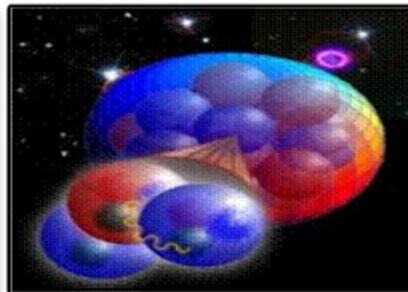
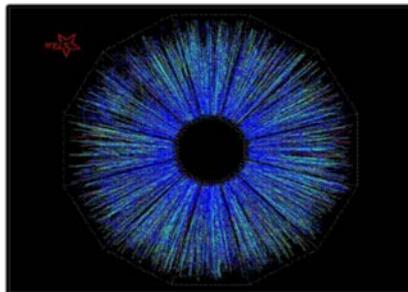
U.S. DEPARTMENT OF  
**ENERGY**

Office of  
Science

## Scientific Facilities Charge from the DOE Office of Science

Nuclear Science Advisory Committee Meeting  
January 28-29, 2013

Dr. T. J. Hallman  
Associate Director for Nuclear Physics  
DOE Office of Science



# New Charge Given to NSAC on Future Facilities Needed for SC's Mission

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**From: W. F. Brinkman**  
**Director, Office of Science**

I am writing to present a new charge to each of the Office of Science Federal Advisory Committees. I would like each Advisory Committee to help us with an important task—the prioritization of **proposed scientific user facilities** for the Office of Science. To meet a very compressed timetable, **we will need your final report by March 22, 2013.**

This charge derives from Administration efforts to improve the efficiency, effectiveness, and accountability of government programs and requirements of the Government Performance and Results Modernization Act of 2010. In order to improve the agency's performance, and in compliance with this Act, DOE has established several Priority Goals, including the following goal for the Office of Science:

*Goal Statement: Prioritization of scientific facilities to ensure optimal benefit from Federal investments. By September 30, 2013, formulate a 10-year prioritization of scientific facilities across the Office of Science based on (1) the ability of the facility to contribute to world-leading science, (2) the readiness of the facility for construction, and (3) an estimated construction and operations cost of the facility.*

# A new charge to NSAC on Future Facilities needed to achieve SC's Mission

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To accomplish this goal, DOE will undertake the following steps. We will need your help with step #2, as described below.

The DOE/SC Associate Directors will create a list of proposed new scientific user facilities or major upgrades to existing scientific user facilities that could contribute to world leading science in their respective programs from 2014 to 2024 (the timeframe covered by this goal).

This step is complete. The Associate Directors have developed material describing the nature of a number of proposed new or upgraded facilities, the scientific justification for the facility or upgrade, and the various inputs from the scientific community that provided motivation for the proposal. Additionally, the Associate Directors have provided assessments of their existing scientific user facilities to contribute to world-leading science through 2024. The Associate Directors will be in touch with their respective FACA chairs shortly to submit this material directly to you.

The information developed by the DOE/SC Associate Directors will be used by the DOE/SC as the basis for engagement with the DOE/SC Federal Advisory Committees and others to seek advice and input on new or upgraded scientific user facilities necessary to position the DOE/SC at the forefront of scientific discovery. The Federal Advisory Committees will seek additional outside input as necessary. In particular, for programs that have a significant existing or potential user base outside of the DOE/SC, the Federal Advisory Committees will be encouraged to seek input from the broader scientific community and existing facility user committees.



# A new charge to NSAC on Future Facilities needed to achieve SC's Mission

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In order for your Advisory Committee to execute step #2, I suggest that you empanel a subcommittee to review the list of existing and proposed facilities provided to you by the program Associate Director, subtracting from or adding to the list as you feel appropriate. To address the concerns of the broad facilities user community, the subcommittees should include representatives of the broad, multi-disciplinary community that stands to benefit from these facilities, including representatives whose research is supported by other Federal agencies. In its deliberations, the subcommittees should reference relevant planning documents and decadal studies. If you wish to add facilities or upgrades, please consider only those that require a minimum investment of \$100 million. More detailed instructions for the report are given below.

Finally, with input from the DOE/SC Federal Advisory Committees and other stakeholders, the DOE/SC Director will prioritize the proposed new scientific user facilities and major upgrades across scientific disciplines according to his/her assessment of the scientific promise, the readiness of the facility to proceed to construction, and the cost of construction and operation. In making this prioritization, the DOE/SC Director will consider the resource needs for research support and for robust operation of existing facilities and will engage leaders of other relevant agencies and the Administration to ensure priorities are coordinated with related investments by other agencies and reflect cross-agency needs where appropriate.

Please provide me with a short letter report that assigns each of the facilities to a category and provides a short justification for that categorization in the following two areas, but do not rank order the facilities:

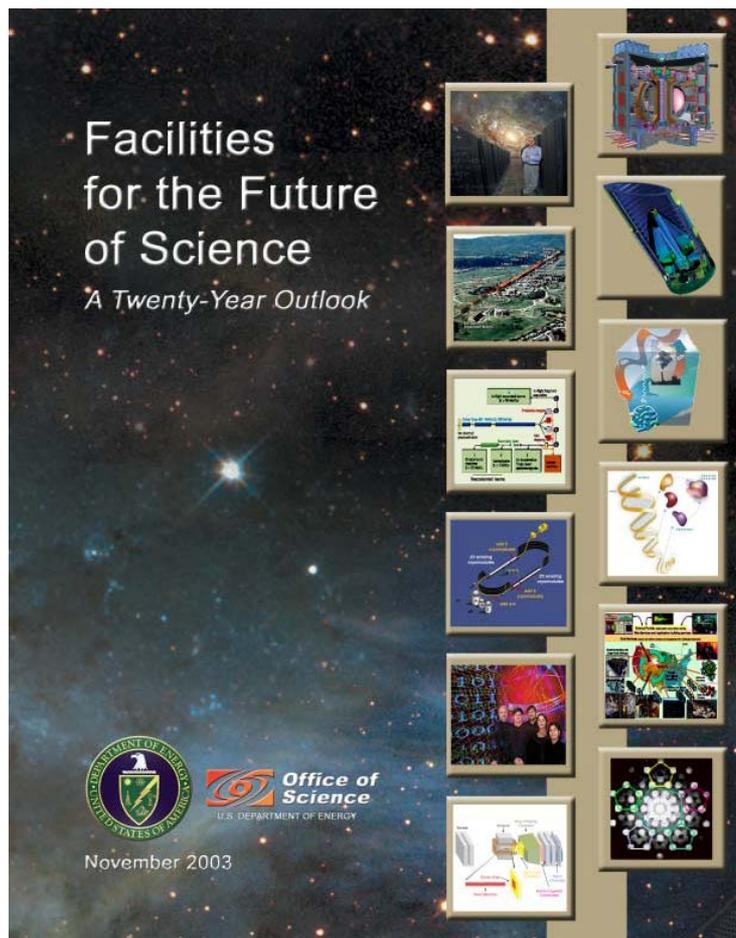
# A new charge to NSAC on Future Facilities needed to achieve SC's Mission

*The ability of the facility to contribute to world-leading science in the next decade (2014 – 2024).* Please include both existing and proposed facilities/upgrades and consider, for example, the extent to which the proposed or existing facility or upgrade would answer the most important scientific questions; whether there are other ways or other facilities that would be able to answer these questions; whether the facility would contribute to many or few areas of research and especially whether the facility will address needs of the broad community of users including those supported by other Federal agencies; whether construction of the facility will create new synergies within a field or among fields of research; and what level of demand exists within the (sometimes many) scientific communities that use the facility. **Please place each facility or upgrade in one of four categories: (a) absolutely central; (b) important; (c) lower priority; and (d) don't know enough yet.**

*The readiness of the facility for construction.* For proposed facilities and major upgrades, please consider, for example, whether the concept of the facility has been formally studied; the level of confidence that the technical challenges involved in building the facility can be met; the sufficiency of R&D performed to-date to assure technical feasibility of the facility; and the extent to which the cost to build and operate the facility is understood. **Please place each facility in one of three categories: (a) ready to initiate construction; (b) significant scientific/engineering challenges to resolve before initiating construction; and (c) mission and technical requirements not yet fully defined.**

Each SC program Associate Director will contact the Chair of his or her Federal Advisory Committee to discuss and coordinate the logistics of executing this charge. We realize that the six SC programs will require somewhat different approaches, in part based on recent and future community planning activities. In addition, if you would like to discuss the charge further, please feel free to contact Pat Dehmer ([patricia.dehmer@science.doe.gov](mailto:patricia.dehmer@science.doe.gov)). Thank you for your help with this important task.

## This Exercise has Similarities to One Performed in 2003 and Updated in 2007



... if we are to continue that kind of success we need to look to the future. So I am here today to release a 20-year roadmap for future scientific facilities. These facilities and upgrades to our current inventory will revolutionize science and society. They are needed to extend the frontiers of science, to pursue opportunities of enormous importance, and to maintain U.S. science primacy in the world.

We are the single largest supporter of basic research in the physical sciences, accounting for approximately 40 percent of all federal funds in this area over the past decade.

If we want to remain the focal point of scientific discovery, we must look to the future. And that is why I am here today. *Spencer Abraham, November 14, 2003*

### **Four Years Later: An Interim Report on *Facilities for the Future of Science: A Twenty-Year Outlook* August 2007**

