NEWS RELEASE

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COMMITTEE COMPLETES REVIEW OF NATIONAL IGNITION FACILITY PROJECT

A report commissioned by the University of California has provided a series of recommendations that will be helpful in strengthening the National Ignition Facility project and putting it on a course for successful completion (download report in pdf format).

The university and the Lawrence Livermore National Laboratory are making improvements consistent with the report's findings and recommendations. Included in these are the need for the laboratory director to "take ownership and devote greater attention to the project," the establishment of a "surprise-free environment" for NIF and the implementation of and adherence to "sound project management protocols."

Secretary of Energy Bill Richardson already has ordered a series of actions to address projected cost overruns and scheduling delays that came to light early last September in the $1.2 billion project.

"The university fully accepts its responsibility to oversee the management of this project, and we intend to do so in a rigorous way," UC President Richard C. Atkinson said in response to the committee's report.

"The National Ignition Facility is an essential element of the Department of Energy's national security mission and an undertaking that holds great potential for scientific discovery," Atkinson added. "I am confident the project will move forward with the continued cooperation of the Department of Energy, the University of California and the Livermore laboratory."

The NIF report is the work of a special committee formed at Atkinson's request by the UC President's Council on the National Laboratories. The 20-member group that advises the university on its management of the Lawrence Berkeley, Lawrence Livermore and Los Alamos national laboratories for the U.S. Department of Energy (DOE).

Steven E. Koonin, vice president and provost and a professor of theoretical physics at the California Institute of Technology chaired the committee, whose 10 members have expertise in science, engineering, project management and research facility operation.

In the conclusion of its report to Atkinson the committee stated:

"The NIF project can be characterized by a number of remarkable achievements that are attributable to the creativity, hard work and dedication of its staff and management. These accomplishments are to be commended and must not be dismissed or forgotten in the current atmosphere. However, the project is now facing potentially serious cost and schedule overruns because of management deficiencies at the laboratory, the university and the DOE."

Beyond the management deficiencies, the committee identified three contributing factors: the NIF budget contingency was too low; the baseline for the technical, scope, cost and schedule parameters of the project was set too early; and early shortfalls in programmatic funding.

While not seeking to advise on technical options for the future development of NIF – that is a DOE decision – the committee commented that, "The project has already successfully solved a number of very difficult technical issues." The report added: "The technical peer review groups believe that the technical issues can be successfully handled by the laboratory, and the committee has no reason to believe otherwise. The laboratory has an excellent track record for resolving technical issues of this sort."

Among the laboratory's actions to strengthen its management of the NIF project are the implementation of an improved organizational structure for the project and the appointment of new management personnel.

The university, for its part, is taking steps to strengthen its oversight of NIF and other major projects at the UC-managed laboratories. For example, the university is augmenting the structure and membership of the UC president's council to provide for critical and rigorous project reviews and will hold the laboratories accountable for adhering to the highest standards of project management requirements.

In addition, the university will work with the laboratory and the DOE to implement these five recommendations presented by the committee to move NIF forward:

1. **The roles and responsibilities of the various parties should be clearly defined.** The university, the laboratory and the DOE should define and understand their respective roles "since it would be detrimental to have either the DOE or the university trying to micromanage or second-guess project management decisions."
2. **The laboratory director must take ownership and devote greater attention to the project.** The committee acknowledged the director's commitment to NIF but urged that he must "own it and its problems" until the project is successfully completed.
3. **The laboratory should appoint an associate director or a manager of equivalent rank for NIF.** This individual should "serve as a champion for NIF" as well as "run interference and interact with all the necessary internal and external constituents to once again get NIF back into a healthy situation and environment," the committee advised.
4. **The project must establish a "surprise-free" environment.** Toward this end, the committee suggested the implementation of formal communications from "top down" and "bottom up" within the laboratory and extending to relevant levels in the DOE and the university; and a "critical, intrusive, independent" review of the project established by the laboratory director, which must include technical and scientific progress as well as performance by engineering, systems engineering and industrial partners.
5. **The project must follow sound project management principles and develop the appropriate documentation necessary for the successful development and implementation of a project of**

this complexity. Elements of these principles should include an appropriate baseline for technical scope, cost and schedule; an integrated implementation plan; alignment of the NIF organizational structure with the project's objectives and tasks; a plan for managing change that provides control and accountability; a risk analysis and mitigation plan; and performance measurement systems and performance metrics.

The implementation of these recommendations and the supply of adequate funding "would give the committee confidence that the laboratory can successfully complete and operate the NIF," the committee report said.

Joining Koonin on the review committee were: Roger Falcone, a professor of physics and chairman of the physics department at UC Berkeley; William R. Frazer, professor emeritus of physics at UC Berkeley and interim chair of the UC President's Council on the National Laboratories; William Friend, a retired senior executive with the Bechtel Group Inc. who now consults for the firm; Hermann Grunder, director of the Thomas Jefferson Laboratory in Newport News, VA; Raymond Jeanloz, a professor of geology and geophysics at UC Berkeley; Robert McCrory, a physics professor and director of the Laboratory for Laser Energetics at the University of Rochester; Kenneth Pickar, a former senior vice president of engineering and technology for AlliedSignal Aerospace who is currently a visiting professor of mechanical engineering at Caltech; Gary Sanders, deputy director of the Caltech Laser Inferometer Gravitational Wave Observatory; and William Simmons, a retired TRW senior executive.

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