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United States Senate

COMMITTEE ON APPROPRIATIONS
WASHINGTON, DC 20510-6025
<http://appropriations.senate.gov>

May 16, 2013

The Honorable Eric Swalwell
U.S. House of Representatives
501 Cannon House Office Building
Washington, DC 20510

The Honorable Zoe Lofgren
U.S. House of Representatives
1401 Longworth House Office Building
Washington, DC 20510

Dear Representative Swalwell and Representative Lofgren:

I want to thank you and your colleagues for the May 10, 2013 letter on the fiscal year 2014 budget request for the National Ignition Facility (NIF). I appreciate your taking the time to share your concerns about the proposed budget reductions and the impact it may have on Lawrence Livermore National Laboratory.

I agree that NIF is an important part of the stockpile stewardship program and it can provide greater confidence in our stockpile as it ages. As it has been explained to me, the purpose of building a \$3.5 billion facility like NIF is to study thermonuclear burn in the lab. NIF is supposed to be the only experimental facility in the United States that would be able to attain the extreme temperatures and pressures approaching those found in nuclear explosions.

There are several facilities in the United States that can routinely achieve fusion, such as the Z facility at Sandia National Laboratory and the OMEGA facility at the University of Rochester. What is supposed to set NIF apart is its ability to achieve ignition—a self-sustaining fusion reaction that produces an excess of energy. The National Academy of Sciences defines ignition as fusion energy output greater than or equal to laser energy delivered to the target.

NIF has failed to achieve its stated goal of achieving ignition twice—first in September 2010 and then again in September 2012. This Committee appropriated close to \$1 billion in fiscal years 2011 and 2012 to accelerate experiments related to ignition. As you know, this level of funding was not meant to be sustained beyond this two year effort.

Representatives Eric Swalwell and Zoe Lofgren

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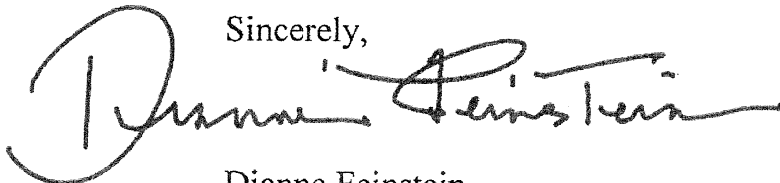
Experts have told me that significant scientific barriers remain and experimental data does not match simulation codes, which means it is impossible at the moment to predict whether ignition can be achieved on NIF. I believe that now is the perfect opportunity to reassess the goals of this program.

Your request to fund NIF at \$486.6 million—\$157.6 million, or 48 percent, above the President's budget request—is hard to justify given budget constraints and a lack of a clear path forward for achieving ignition. As Chairman of the Energy and Water Development Appropriations subcommittee, I have asked Lawrence Livermore National Laboratory, working with the National Nuclear Security Administration, to develop clear and measurable goals to track progress in achieving ignition and meet the needs of the stockpile stewardship program. Without a clear path forward for resolving scientific barriers, it is difficult to assess the funding needs by NIF in fiscal year 2014. I asked for new milestones and program goals more than 6 months ago and still have not received them.

I have been assured that the fiscal year 2014 budget request of \$329 million for NIF is sufficient to operate the facility and conduct the highest priority experiments. In fact, understanding discrepancies between experimental results and simulations does not necessarily require significant resources. For example, a recent experiment yielded some of the best experimental results for little cost by a small team of weapons scientists. What concerns me is that NIF is the most expensive experimental facility at the Department of Energy—greater than \$1 million a day to run—and has not taken the necessary steps to achieve greater operating efficiencies. NIF is competing for limited resources in a fiscally constrained budget environment and must fully justify its budget request.

Thank you again for voicing your concerns and raising this issue with me.

Sincerely,

A handwritten signature in black ink, appearing to read "Dianne Feinstein". The signature is fluid and cursive, with a large initial "D" and a long, sweeping underline.

Dianne Feinstein

Chairman

Subcommittee on Energy and Water Development

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cc:

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Representative Julia Brownley
Representative Brad Sherman
Representative Michael Honda
Representative Scott Peters
Representative Henry Waxman
Representative Linda T. Sanchez
Representative Jim Costa
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Mr. Jeff Wadsworth

Mr. David Walker

Mr. Craig Weaver