

March 27, 2023

The Honorable Chuck Fleischmann
Chairman
Subcommittee on Energy and Water
Development, and Related Agencies
Subcommittee
Committee on Appropriations
2362-B Rayburn House Office Building
United States House of Representatives
Washington, DC 20515

The Honorable Marcy Kaptur
Ranking Member
Subcommittee on Energy and Water
Development, and Related Agencies
Subcommittee
Committee on Appropriations
1016 Longworth House Office Building
United States House of Representatives
Washington, DC 20515

Dear Chair Fleischmann and Ranking Member Kaptur:

As you begin work on the fiscal year 2024 (FY24) Energy and Water Development Appropriations bill, we strongly urge you to provide at least \$410 million for the National Ignition Facility (NIF) at Lawrence Livermore National Laboratory (LLNL), under the National Nuclear Security Administration's (NNSA) Inertial Confinement Fusion and High Yield Campaign. This is an increase from the last fiscal year to account for necessary refurbishments.

NIF is the world's largest laser and NNSA's premier facility for cutting edge research, including in high energy density physics regimes and material behavior under extreme pressure. This work is essential to ensuring the safety and reliability of our nuclear stockpile through NNSA's science-based Stockpile Stewardship Program (SSP). NIF has been and continues to be an integral part of the SSP, which was specifically developed to maintain a safe, secure, and effective deterrent without further underground testing. These same capabilities are also pushing the scientific frontier and helping lay the groundwork for a clean, sustainable energy source.

As you know, on December 5, 2022, NIF made history by achieving fusion ignition, which has been a long-sought threshold in fusion research that could enable us to harness a tremendous source of clean power. Additionally, the drive towards ignition helps attract, train, and challenge the workforce needed to ensure the reliability of the nation's strategic nuclear deterrent and to open new frontiers in laboratory astrophysics, materials science, hydrodynamics, and other scientific disciplines. However, for NIF to continue delivering through its design lifetime in 2040, we must implement a plan to address deferred maintenance and aging issues have started to affect performance.

NIF construction was completed more than 20 years ago and many of its critical support facilities are housed in buildings approaching 50 years of age. The facility has operated nonstop since it was turned on in 2009 but nearly flat budgets over the last decade have pushed NIF beyond its designed operating point. Additionally, the high technology from the early 2000s that made NIF state of the art at the time is becoming obsolete. As a result, the risk of significant downtime in the NIF experimental rate is growing with equipment failures already contributing to the loss of approximately 50 shot opportunities a year. The additional funding is necessary to proceed with the plan to refurbish and upgrade NIF facilities, which requires an additional \$300 million over 5 years – approximately 6 percent of the replacement value of NIF – and is expected

to increase NIF's experimental capacity by up to 25 percent by eliminating inefficiencies caused by aging equipment. Completion of the plan will sustain NIF over the next two decades, support routine operations at ignition level yields, increase its shot-rate up to 25 percent, and enable an upgrade in laser energy.

For these reasons we urge you to provide a small increase for NIF, to \$410 million in FY24. We look forward to continuing to work with you to support the cutting-edge science carried out by NIF, which is critical for the SSP and advancements in our understanding of fusion energy.

Thank you for your consideration of this request.

Sincerely,



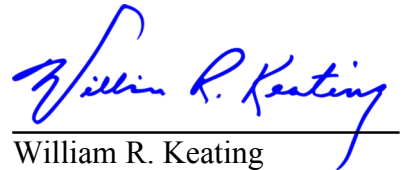
Zoe Lofgren
Member of Congress



Eric Swalwell
Member of Congress



Shontel M. Brown
Member of Congress



William R. Keating
Member of Congress



Doris Matsui
Member of Congress



Ro Khanna
Member of Congress



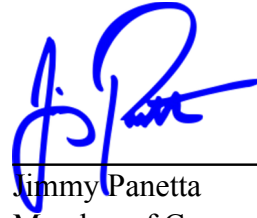
Terri A. Sewell
Member of Congress



Mark DeSaulnier
Member of Congress



Jamaal Bowman, Ed.D.
Member of Congress



Jimmy Panetta
Member of Congress



Tony Cárdenas
Member of Congress



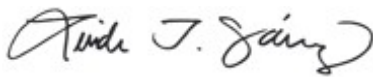
Sheila Cherfilus-McCormick
Member of Congress



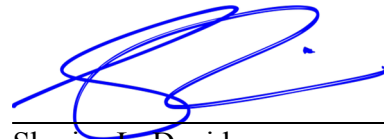
Steve Cohen
Member of Congress



Kim Schrier, M.D.
Member of Congress



Linda T. Sánchez
Member of Congress



Sharice L. Davids
Member of Congress



Sean Casten
Member of Congress



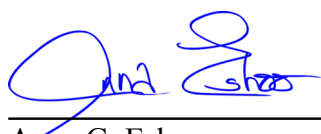
Donald S. Beyer Jr.
Member of Congress



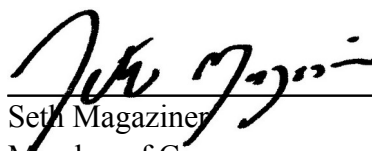
Mike Thompson
Member of Congress



Diana DeGette
Member of Congress



Anna G. Eshoo
Member of Congress



Seth Magaziner
Member of Congress