The Honourable James Richard Perry  
Secretary of Energy  
United States Department of Energy  
1000 Independence Ave, SW  
Washington, DC 20585  

13th March 2018  

Dear Sir,  

RE: The proposed closure of the OMEGA laser in the FY2019 President’s Budget Request  

The recent release of the US President’s budget request for FY2019 included deep budget cuts to the US Department of Energy’s National Nuclear Security Administration’s Inertial Fusion Programme and a three-year phasing out of the OMEGA laser facility at the University of Rochester, Laboratory for Laser Energetics (LLE).  

The OMEGA facility has provided vital support to inertial fusion research both in the US and internationally for many years. In addition LLE has been a major contributor to key areas of science and technology. It is truly a great asset of the United States. Research into implosions relevant to inertial fusion requires a highly dedicated facility and expert effort. Such a dedicated implosion facility was developed at LLE, but virtually nowhere else (especially so outside the US). This has enabled LLE to carry out experiments which have laid a credible foundation for inertial fusion (in general) and what is known as "direct-drive" inertial fusion in particular.  

Furthermore, the OMEGA facility has enabled LLE to provide important support for the wider US fusion effort. The loss of OMEGA would therefore mean both the US and the international community would lose a very rare capability, and it would lead to a long term set-back for the development of laser based fusion.  

Beyond this there would be the loss of a pioneering contributor to many aspects of science and technology. As the director of the Central Laser Facility in the UK, providing laser facilities to UK researchers, I know the leading role that has been played by LLE over the years. Modern "ultra-intense" lasers originated at LLE thanks to the work of Donna Strickland and Gerard Mourou in the mid-1980s. This work has underpinned a plethora of developments and discoveries around the globe since then, led to new businesses and supported the foundations of major systems, such as the EU’s Extreme Light Infrastructure (ELI). Many other vital contributions to lasers, optics, computer simulation, detectors, and micro-technology originated at LLE.
You may be aware of the recent *National Academy of Sciences* report into ultra-intense lasers, jointly commissioned by the NNSA and others, that served to highlight the growing gulf between capabilities in the USA, compared to those current and planned in the EU and Asia. It seems to me a pathway to close OMEGA runs totally counter to the findings of this independent study and the interests of the US scientific community.

I would urge you do to whatever you can to reverse this proposed course of action.

Yours faithfully,

[Signature]

Professor John Collier FLSW
Director, Central Laser Facility