

My name is Dave Hill. I work for Lawrence Livermore National Laboratory on the DIII-D tokamak.

I want to thank the panel for providing ample opportunity for community input through presentations at multiple meetings and through white papers and through discussions at those meetings. The process was not exclusive and the community had opportunity to speak its mind.

I would like to encourage the panel to consider the wording of the highest priority initiative, which is explicitly focused on controlling transients. It seems that this initiative should be about achieving high performance steady-state operation, which would have controlling transients as an important major. Reaching the fusion goal requires first and foremost a *sustained high pressure fusion core*; these initiatives do not explicitly mention such a challenge apart from ITER. Is this problem solved so that now transients are the only obstacle to designing and embarking on FNSF? Are transients the only major obstacle that the US can produce world leading science? It reads as if the whole experimental US fusion effort boils down to controlling damaging transients.

There was a lot of discussion about the vision espoused by the report with regard to motivating increasing investment in fusion, that the words are not expansive or visionary enough. In my experience, people find fusion energy to a very visionary and captivating challenge, but they want to know how long will it take to achieve this goal. Or if it is possible at all. The strategic plan in this report should show how our research will enable the realization of fusion energy and make the cost worth it. Simply saying that a trillion dollar investment would bring fusion to fruition is probably not going to motivate a larger fusion program.

There has been a lot of discussion about partnering with other agencies or parts of DOE. I think the report should clearly state that balanced partnerships are needed, with the other sponsors providing matching investments along side FES. Otherwise, it simply represents redirecting the fusion program to become a materials research program. A balanced partnership would look like the partnership between FES/OS and NNSA on HEDLP that was started about 6 years ago, which each host agency promising equal support. Unfortunately, the funding did not materialize for either agency to carry out the planned program. This report should call for matching investment in materials research by other elements of DOE and US governmental agencies.