Public Comment at FESAC Meeting March 12, 2015
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I have two comments. The first regards the four research-needs workshops discussed this afternoon. This morning we heard from Dr. Orr and Dr. Dehmer about the importance of community consensus to having a strong program and to enable steps toward our goals. This lesson was also learned in the late 1990s, but we have forgotten it. During the 1990s we lost BPX, lost TPX, lost ITER the first time, in part due to a lack of consensus. We received strong advice that we would not go forward without consensus, the same advice that we received this morning. Turning this around required a succession of community workshops and two Snowmass meetings (1999 and 2002). Each Snowmass meeting was followed by a FESAC prioritization study and report, each with broad and substantial community engagement. These were followed by the "Burning Plasma" National Academy study, which provided external review and endorsement of our goals and plans. I clearly recall the discussion during that study, by those outside our field, that community consensus was absolutely essential to go forward: to reengage in burning plasma physics and to rejoin ITER. We must not forget these lessons. The top goal of the upcoming research-needs workshops should be to achieve community consensus in their topical areas. We must spend the time and effort needed to have one plan (likely with multiple parts) and speak with one voice. We will not advance without this.

My second comment is about the FES strategic planning process, discussed by Dr. Synakowski. I strongly support the four research-needs workshops to help inform this process. But, we should recall that they do not cover all the high priority issues identified in past reports. In particular, the need for steady-state high-performance plasma confinement has been identified repeatedly, for example in the 2007 Priorities, Gaps, and Opportunities Report and in the ReNeW Report as Theme 2. This requires the integration of solutions to the plasma-wall and transients challenges. It also requires advances in other areas such as efficient magnetic configuration sustainment and control. Achieving this will be crucial for fusion energy's success in the DOE decision process and in the energy market, as discussed by Dr. Orr this morning. Steady-state high-performance is not a new overall initiative, as we have had significant activity in this area, but it may need new ideas, approaches, and investment. Research on this topic should be included in the strategic plan, as it is known to be critical for both the ITER sustained Q=5 goal and any step going beyond ITER.

Thank you.