

Abstract Submitted
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Revisiting the Design of a Fusion Development Facility¹ V.S. CHAN, R.D. STAMBAUGH, A.M. GAROFALO, J.P. SMITH, C.P.C. WONG, General Atomics — A Fusion Development Facility (FDF) is proposed to make possible a DEMO of the ARIES-AT type as the next step after ITER. The mission of the FDF should be to carry forward advanced tokamak physics and enable development of fusion nuclear science and technology. We have added more realism to the initial FDF concept [1] including inner and outer gaps from the plasma to the first wall; an improved estimate of the inboard/outboard blanket/shield thickness to protect the magnets/insulators; control coil positions; and realistic divertor geometry. Optimizing the mix of heating and current drive power has high leverage on the operating power. We have also revisited the assumed impurity fraction and the density profile peakedness.

[1] R.D. Stambaugh, *et al.*, Bull. Am. Phys. Soc. **53**, 259 (2008).

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