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TNS PROGRAM - THE NEXT STEP IN CONFINEMENT FUSION BEYOND TFTR*

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Preparation for the next logical tokamak confinement device beyond TFTR, The Next Step (TNS), is the focus of this program. TNS is intended to lead to an economically viable fusion reactor and is being planned for late-1980's operation. The TNS Program findings directly relate to the basic understanding needed for reactor design and construction. The two principal objectives are (1) demonstration of an ignited and burning reactor core and through the preparation for this demonstration, (2) the provision of a forcing function for the integration of the fusion program elements. The three major components of the activity that constitute the preparation for the TNS are design studies, definition of research, development and demonstration needs, and initiation of project engineering tasks. Closely integrated scientific and engineering design studies have been performed to establish a reference design base from which further planning and design is proceeding. The technical assessments being made in the studies are directed at ensuring that the key ideas conceived on the basis of their theoretical desirability can indeed be made workable in the late 1980's time frame.

The scientific and engineering design studies have resulted in a documented understanding of the appropriate design space for The Next Step after TFTR. Five interrelated tasks have been undertaken in the conduct of these activities.

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