1 Overview and Findings 1

Achievements and Challenges of the U.S. Fusion Energy Program 6 Findings on TPX 9 Findings on Alternate Concepts for Fusion Energy 12

2 The Federal Fusion Energy Research Program 17

History of U.S. Fusion Energy Research 18 The Fusion Program Goals in Law and Policy 32 Legislative Directives 36 Federal Fusion Energy Research Programs 36 Future Budget Choices 46

3 The Tokamak Physics Experiment 49 History of the TPX Decision 50 Description of TPX 53 Issues 57

4 Alternate Concepts for Fusion Energy 65

Reasons to Pursue Alternate Fusion Concepts 65 Status and Prospects of Alternate Concepts 68 Steps in Examining Alternate Concepts 76 DOE's Program for Alternate Concepts 78 Conclusion 80

APPENDIX

A Acronyms and Glossary of Terms 81

