Contents

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





