Section	Title	Pages	Author	Coordinator
1.0.0.0.	Executive Summary	0.2	co-chairs	co-chairs
1.1.0.0.	Science, technology, and energy development path benefits of MFE burning plasma experiments and IFE integrated research experiments and assessment of scientific and technological readiness	0.5	co-chairs	co-chairs
1.1.1.0.	Roles of burning plasmas in fusion science and in the fusion development path, and relations to the base program	0.4	co-chairs	co-chairs
1.1.1.1.	MFE	0.3	co-chairs	co-chairs
1.1.1.2.	IFE	0.3	co-chairs	co-chairs
1.1.2.0.	Scientific readiness and scientific questions/issues to be addressed/resolved in the major next step approaches	0.3	co-chairs	co-chairs
1.1.2.1.	MFE burning plasma experiments	0.3	co-chairs	co-chairs
1.1.2.2.	IFE integrated research facilities	0.3	co-chairs	co-chairs
1.1.3.0.	Technology readiness and technology benefits of major next steps, including development path benefits	0.3	co-chairs	co-chairs
1.1.3.1.	MFE burning plasma experiments	0.3	co-chairs	co-chairs
1.1.3.2.	IFE integrated research facilities	0.3	co-chairs	co-chairs
1.1.4.0.	Relationship between tokamak's and ICCs' burning plasmas' science, technology, and development paths	0.3	co-chairs	co-chairs
1.2.0.0.	Uniform assessment of proposed major next steps [NOT a selection of "the best"]	0.2	co-chairs	co-chairs
1.2.1.0.	MFE burning plasma experiments	0.5	co-chairs	co-chairs
1.2.1.1.	Scope and description of each approach/next-step-option for burning plasma experiments	1	co-chairs	co-chairs
1.2.1.2.	Brief description of assessment methodology	1	co-chairs	co-chairs
1.2.1.3.	Overview of uniform technical assessment of benefits (physics, technology and development path), credibility, and cost of each approach/option	1	co-chairs	co-chairs
1.2.2.0.	IFE integrated research facilities	0.3	co-chairs	co-chairs
1.2.2.1.	Scope of each approach/ next-step-option for integrated research facilities	1	co-chairs	co-chairs
1.2.2.2.	Brief description of assessment methodology	1	co-chairs	co-chairs

1.2.2.3.	Overview of uniform technical assessment of benefits (physics, technology and development path), credibility, and cost of each approach/option	1	co-chairs	co-chairs
2.0.0.0.	Introduction for both MFE and IFE Next Steps	0.2	co-chairs	co-chairs
2.1.0.0.	Background of the study in both MFE and IFE	1	co-chairs	co-chairs
2.2.0.0.	Goals of the study in both MFE and IFE	1	co-chairs	co-chairs
2.3.0.0.	Brief description of the study's products and processes	1	co-chairs	co-chairs
3.0.0.0.	MFE Next Steps	0.1	MFE.*	Prager
3.1.0.0.	Overviews of MFE burning plasmas science, technology, and experimental approaches/objectives	0.1	MFE.*	Prager
3.1.1.0.	Physics issues of MFE burning plasmas	0.1	MFE.P*	Prager
3.1.1.1.	Wave-particle interactions	1	MFE.P1	Prager
3.1.1.2.	Energetic particles/alpha-physics	1	MFE.P2	Prager
3.1.1.3.	MHD	1	MFE.P3	Prager
3.1.1.4.	Transport	1	MFE.P4	Prager
3.1.1.5.	Boundary physics	1	MFE.P5	Prager
3.1.1.6.	Integration	1	MFE.P*	Prager
3.1.2.0.	Technology issues of MFE burning plasma next steps	0.2	MFE.T*	Baker
3.1.2.1.	Magnets	1	MFE.T1	Baker
3.1.2.2.	PFC/heat removal	1	MFE.T2	Baker
3.1.2.3.	Heating/current drive	1	MFE.T3	Baker
3.1.2.4.	Vacuum vessel/remote handling	1	MFE.T4	Baker
3.1.2.5.	Safety/tritium/materials	1	MFE.T5	Baker
3.1.2.6.	Costing	1	MFE.T6	Baker
3.1.3.0.	Experimental approach and objectives	0.2	MFE.E*	Taylor
3.1.3.1.	Diagnostics	1	MFE.E1	Taylor
3.1.3.2.	Integrated scenarios/ignition physics/burn control	1	MFE.E2	Taylor
3.1.3.3.	Physics operations	1	MFE.E3	Taylor
3.1.3.4.	Development path	1	MFE.E4	Taylor
3.2.0.0.	Approaches to MFE burning plasma studies: development paths and next step options	0.3	MFE.*	Navratil, Sauthoff

3.2.1.0.	MFE development paths (including US strategy, integrated/supporting paths for burning plasmas and concept optimization)	0.1	MFE.E4	Taylor
3.2.1.1.	Modular approach (including ICCs)	2	MFE.E4 and MFE.B4	Taylor
3.2.1.2.	Integrated physics/technology approach (including ICCs)	2	MFE.E4 and MFE.B4	Taylor
3.2.1.3.	Relationship between MFE innovative confinement concepts (ICCs) and tokamak burning plasmas (science and technology)	3	MFE.B4	Taylor
3.2.2.0.	Visions of the future program	0.1	MFE.*	Navratil, Sauthoff
3.2.2.1.	Visions of the program 10-15 years in the future with and without a burning plasma experiment	2	Community Issues	Navratil, Sauthoff, Bangerter
3.2.2.2.	Roles of the "base program" and "curiosity-driven science" in the future program	2	Community Issues	Navratil, Sauthoff, Bangerter
3.2.3.0.	Pro's and con's of domestic and international programs and of facilities inside and outside the US	4	Community Issues	Navratil, Sauthoff, Bangerter
3.2.4.0.	MFE next step options addressed in this study	0.3	MFE.B1-3	Nevins
3.2.4.1.	FIRE	3	MFE/B1	Nevins
3.2.4.2.	Ignitor	3	MFE/B2	Nevins
3.2.4.3.	ITER	3	MFE/B3	Nevins
3.3.0.0.	Uniform assessments of tokamak approaches to MFE burning plasmas, including explicit sub-outline sections on:(i) key issues and associated assessment criteria; (ii) methods for projecting plasmas in future devices; (iii) assessment tools and methods; and (iv) uniform assessments of approaches to burning plasmas (FIRE, IGNITOR, and ITER)	0.5		Navratil, Sauthoff
3.3.1.0.	Physics issues of MFE burning plasmas	0.2	MFE.P*	Prager
3.3.1.1.	wave-particle interactions	3	MFE.P1	Prager

3.3.1.2.	energetic particles/alpha-physics	3	MFE.P2	Prager
3.3.1.3.	MHD	3	MFE.P3	Prager
3.3.1.4.	transport	3	MFE.P4	Prager
3.3.1.5.	boundary physics	3	MFE.P5	Prager
3.3.1.6.	integration	3	MFE.P*	Prager
3.3.2.0.	Technology issues of MFE burning plasma next steps	0.2	MFE.T*	Baker
3.3.2.1.	magnets	3	MFE.T1	Baker
3.3.2.2.	PFC/heat removal	3	MFE.T2	Baker
3.3.2.3.	heating/current drive	3	MFE.T3	Baker
3.3.2.4.	vacuum vessel/remote handling	3	MFE.T4	Baker
3.3.2.5.	safety/tritium/materials	3	MFE.T5	Baker
3.3.2.6.	costing	3	MFE.T6	Baker
3.3.3.0.	Experimental approach and objectives	0.2	MFE.E*	Taylor
3.3.3.1.	diagnostics	3	MFE.E1	Taylor
3.3.3.2.	integrated scenarios/ignition physics/burn control	3	MFE.E2	Taylor
3.3.3.3.	physics operations	3	MFE.E3	Taylor
3.3.3.4.	development path	3	MFE.E4	Taylor
3.3.4.0.	Contributions to the ICC development paths	3	MFE.B4	Taylor
4.0.0.0.	IFE Next Steps		IFE.*	Bangerter
4.1.0.0.	Overview of IFE (5 pp)			Bangerter
4.1.1.0.	Generic description of IFE concept - pulsed, modular			Bangerter
4.1.2.0.	Separability of driver, targets, and chamber - allows modular cost-effective research on key issues with synergy between integrated concepts. Discuss table showing spatial and time separation of systems and phenomena; discuss implications for scaled studies of system behavior.			Bangerter
4.1.3.0.	Builds upon ICF program (NNSA-funded) but energy application requires expanded scope of research to achieve high repetition rates, and to produce economic energy with safety and reliability.			Bangerter
4.1.4.0.	Overall IFE Program Roadmap - Introduce the integrated research experiments (IREs). Also introduce the ETF and the Demo steps that follow NIF ignition			Bangerter

	(e.g. scaled demonstrations of all aspects of IFE power plant functions including the generation of fusion electricity).			
4.2.0.0.	Integrated IFE Concepts (Current Point Design Descriptions) [5 pp ; 1 p intro plus 1 p each driver type].These are specific present-day manifestations of an IFE system, for each driver. Also present the primary ETF parameters (driver energy, target yield and rep-rate, chamber geometric scaling and basis for selection (primary phenomena to be preserved)), possibly in a table format that covers all of the driver concepts)			Bangerter
4.2.1.0.	Lasers			Bangerter
4.2.1.1.	KrF			Bangerter
4.2.1.2.	DPSSL			Bangerter
4.2.2.0.	Ions			Bangerter
4.2.2.1.	Induction linacs			Bangerter
4.2.2.2.	Other accelerators			Bangerter
4.2.3.0.	Z-pinches			Bangerter
4.2.4.0.	Fast ignitor options			Bangerter
4.3.0.0.	Near-term R&D plans to address critical issues [27 pp; 1 p introduction plus 26 pp on specific topics]. First list critical issues for each IFE concept in Section B generated by the working groups and subgroups (separate into generic and driver-specific discussions for each working group area). Next describe a 3-5 year research program that addresses the critical issues in a prioritized, cost-effective fashion For items 2-5, specifically present goals of near-term development plan that would provide basis for IRE construction decision.			Bangerter
4.3.1.0.	Summary of Critical Issues (10 pp)			Bangerter
4.3.1.1.	Target Physics (2 pp)			Bangerter
4.3.1.2.	IFE Chamber and Target Technology (2 pp)			Bangerter
4.3.1.3.	Driver Physics and Technology (4 pp)			Bangerter
4.3.1.4.	Interface Issues (2 pp)			Bangerter
4.3.2.0.	Target Physics Plan (3 pp = 1 p direct drive, 1 p indirect drive, 1 pp fast ignitor)			Bangerter

4.3.3.0.	IFE Chamber and Target Technology Plans (3 pp = 1 p liquid chambers, 1 p dry chambers, 1 p targets)			Bangerter
4.3.4.0.	Driver Physics and Technology Plan (4 pp. = 1 p. each driver type)			Bangerter
4.3.5.0.	Other pre-IREs R&D (integration/interface items not covered in 2-4 above) (2 pp)			Bangerter
4.3.6.0.	IREs (including supporting technology activities with goals that would provide basis for ETF construction decision) (4 pp = 1 p each driver type)			Bangerter
5.0.0.0.	Appendices		MFE.*, IFE.*	Co-chairs
5.1.0.0.	2002 Snowmass organization, process, etc.		co-chairs]	Co-chairs
5.2.0.0.	Integrated MFE and IFE matters		Co-chairs	Co-chairs
5.3.0.0.	MFE working group reports		MFE.*	Prager
5.3.1.0.	Physics issues of MFE burning plasmas		MFE.P*	Prager
5.3.1.1.	Wave-particle interactions		MFE.P1	Prager
5.3.1.2.	Energetic particles/alpha-physics		MFE.P2	Prager
5.3.1.3.	MHD		MFE.P3	Prager
5.3.1.4.	Transport		MFE.P4	Prager
5.3.1.5.	Boundary physics		MFE.P5	Prager
5.3.2.0.	Technology issues of MFE burning plasma next steps		MFE.T*	Baker
5.3.2.1.	Magnets		MFE.T1	Baker
5.3.2.2.	PFC/heat removal		MFE.T2	Baker
5.3.2.3.	Heating/current drive		MFE.T3	Baker
5.3.2.4.	Vacuum vessel/remote handling		MFE.T4	Baker
5.3.2.5.	Safety/tritium/materials		MFE.T5	Baker
5.3.2.6.	Costing		MFE.T6	Baker
5.3.3.0.	Experimental approach and objectives		MFE.E*	Taylor
5.3.3.1.	Diagnostics		MFE.E1	Taylor
5.3.3.2.	Integrated scenarios/ignition physics/burn control		MFE.E2	Taylor
5.3.3.3.	Physics operations		MFE.E3	Taylor
5.3.3.4.	Development path		MFE.E4	Taylor

5.3.4.0.	Relation between ICCs and tokamak burning plasmas		MFE.B4	Nevins
5.3.5.0.	Approaches		MFE.B*	Nevins
5.3.5.1.	FIRE		MFE.B1	Nevins
5.3.5.2.	Ignitor		MFE.B2	Nevins
5.3.5.3.	ITER		MFE.B3	Nevins
5.4.0.0.	IFE working group reports		IFE.*	Nevins
6.0.0.0.	Attachments [unlimited pages]		all	