

# NSTX RUN LOG

Joule milestone: 18 weeks; programmatic goal: 20 weeks.

Completed(8/5/04): - 21.1 weeks, producing 2460 plasmas.

<u>Run Date</u>	<u>Run Time</u> (Daily hrs)	<u>Accumulated FY</u> <u>Run Hours</u>	<u>Accumulated FY</u> <u>Run Weeks*</u>	<u>Plasma</u> <u>Attempts</u>	<u>Plasmas</u> <u>Achieved</u>	<u>Experiment Topic</u>	<u>XP/XMP #</u>
1/21/04	3.8	3.8	0.1	9	9	Plasma Control System	XMP-2
1/22/04	2.8	6.6	0.2	5	4	Plasma Control System	XMP-2
Week's End		6.6	0.2				
1/26/04	7.5	14.1	0.4	27	23	rtEFIT	XMP-24
1/27/04	8.0	22.1	0.6	32	27	Edge Rotation	XP-416
1/28/04	6.1	28.2	0.7	11	7	rtEFIT	XMP-24
1/29/04	8.3	36.5	0.9	14	14	rtEFIT	XMP-24
1/30/04	7.0	43.5	1.1	16	14	rtEFIT	XMP-24
Week's End		43.5	1.1				
2/2/04	9.9	53.4	1.3	30	27	rtEFIT	XMP-24
2/3/04	4.9	58.3	1.5	8	6	High $\beta$ (high $\kappa$ )	XP-421
2/4/04	9.7	68.0	1.7	23	18	High $\beta$ (high $\kappa$ )	XP-421
2/5/04	11.7	79.7	2.0	35	34	High $\beta$ (high $\kappa$ )	XP-421
2/6/04	8.2	87.9	2.2	22	16	High Beta-N rampdown	XP-414
Week's End		87.9	2.2				
2/16/04	9.5	97.4	2.4	20	19	Magnetics HHFW	XM-3 XP-421
2/17/04	6.9	104.3	2.6	26	23	Mode Locking	XP-415
2/18/04	9.7	114.0	2.9	26	23	MAST H-mode comparison	XP-418
2/19/04	9.2	123.2	3.1	24	24	MAST H-mode comparison	XP-418
2/20/04	8.7	131.9	3.3	33	29	HHFW	XMP-6
Week's End		131.9	3.3				
2/23/04	9.0	140.9	3.5	21	20	High $\beta$ (high $\kappa$ )	XP-421
2/24/04	9.2	150.1	3.8	19	17	High $\beta$ (high $\kappa$ )	XP-421
2/25/04	9.6	159.7	4.0	23	23	High Beta-N rampdown	XP-414

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2/26/04	9.1	168.8	4.2	21	15	Fast ion spectrum	XP-417
2/27/04	9.8	178.6	4.5	18	16	Long-pulse H-mode	XP-432
Week's End		178.6	4.5				
3/1/04	8.8	187.4	4.7	35	29	He desity scan HHWF	XMP-11 XMP-6
3/2/04	9.5	196.9	4.9	37	27	HHFW	XMP-6
3/3/04	9.6	206.5	5.2	41	38	HHFW Current Drive	XP-403
3/4/04	8.0	214.5	5.4	28	22	HHFW Breakdown	XMP-30
3/5/04	8.5	223.0	5.6	29	23	HHFW Breakdown Magnetics	XMP-30 XMP-3
Week's End		223.0	5.6				
3/29/04	8.3	231.3	5.8	7	4	Magnetics	XMP-30
3/30/04	8.6	239.9	6.0	21	20	Post-boronization assessment with OH	XMP-9
3/31/04	9.1	249.0	6.2	11	11	Magnetics Post-boronization assessment with NBI	XMP-30 XMP-9
4/1/04	9.2	258.2	6.5	24	19	rtEFIT standard shapes	XMP-32
4/2/04	8.1	266.3	6.7	25	22	Fast-ion induced MHD & loss	XP-426
Week's End		266.3	6.7				
4/5/04	8.7	275.0	6.9	22	17	Long-pulse H-mode	XP-432
4/6/04	7.0	282.0	7.1	5	2	Long-pulse H-mode	XP-432
4/7 - 4/8						No operation due to water leak	
4/9/04	9.6	291.6	7.3	8	8	Long-pulse DN	XP-402
Week's End		291.6	7.3				
4/12/04	9.6	301.2	7.5	26	26	Long-pulse DN NPA scan	XP-402 XP-417
4/13/04	13.4	314.6	7.9	36	36	Long-pulse DN RWM	XP-402 XP-407
4/14/04	9.2	323.8	8.1	28	26	H-mode threshold	XP-419
4/15/04	9.6	333.4	8.3	27	24	H-mode scaling	XP-401
4/16/04	9.2	342.6	8.6	33	32	H-mode scaling HHFW	XP-401 XMP-6
Week's End		342.6	8.6				
4/19/04	9.1	351.7	8.8	26	23	H-mode threshold Shape dependence of L-H	XP-401 XP-418
4/20/04	7.9	359.6	9.0	29	26	HHFW H-mode	XP-425
4/21/04	9.5	369.1	9.2	45	43	HHFW Current Drive	XP-403

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4/22/04	13.6	382.7	9.6	27	25	HHFW Heating with NB H-mode PF Frequency Response	XP-413 XP-423
4/23/04	9.8	392.5	9.8	27	27	RWM Rotation Damping	XP-408
Week's End		392.5	9.8				
4/26/04	8.6	401.1	10.0	28	24	Neoclassical Tearing Modes	XP-427
4/27/04	11.1	412.2	10.3	39	38	Long-pulse DN	XP-402
4/28/04	9.4	421.6	10.5	33	32	Edge Characterization	XP-434
4/29/04	9.5	431.1	10.8	31	30	Early H-mode	XP440
4/30/04	9.6	440.7	11.0	47	45	Long-pulse LSN	XP-432
Week's End		440.7	11.0				
5/12/04	3.9	444.6	11.1	7	4	Between-shots boronization	XP-429
5/13/04	11.0	455.6	11.4	28	27	Between-shots boronization Gas Injection Comparison	XP-429 XP-409
5/14/04	8.6	464.2	11.6	41	38	HHFW Power Deposition	XP-441
Week's End		464.2	11.6				
5/17/04	9.6	473.8	11.8	39	37	rtEFIT Gas Injection Comparison	XMP-32 XP-409
5/18/04	10.6	484.4	12.1	32	28	RWM Dissipation	XP-428
5/19/04	9.1	493.5	12.3	34	32	Edge Turbulence	XP-437
5/20/04	9.1	502.6	12.6	36	31	ELM Study	XP-446
5/21/04	8.2	510.8	12.8	33	28	HHFW Breakdown PF-only Start-up	XMP-30 XP-433
Week's End		510.8	12.8				
5/24/04	8.5	519.3	13.0	35	26	Solenoid-free Start- up	XP-431
5/25/04	7.7	527.0	13.2	32	29	q(r) & electron energy transport	XP-411
5/26/04	9.0	536.0	13.4	34	32	HHFW H-mode	XP-425
5/27/04	11.0	547.0	13.7	47	46	HHFW Heating with NB H-mode	XP-413
5/28/04	8.3	555.3	13.9	36	32	Core Turbulence	XP-439
Week's End		555.3	13.9				
6/1/04	7.6	562.9	14.1	37	35	Troyon scaling	XP-421
6/2/04	9.0	571.9	14.3	36	35	ELM Study	XP-446
6/3/04	11.1	583.0	14.6	41	39	SOL flows Mode-locking	XP-447 XP-415

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6/4/04	6.6	589.6	14.7	14	12	MSE Calibration Mode-locking	XMP-33 XP-415
Week's End		589.6	14.7				
6/21/04	8.1	597.7	14.9	26	25	Ohmic H-mode Vertical Stability	XP442 XP-423
6/22/04	10.4	608.1	15.2	44	43	Shoulder Injector ELM Study	XP-409 XP-450
6/23/04	9.0	617.1	15.4	41	35	Early H-mode for HHFW heating	XP-451
6/24/04	11.6	628.7	15.7	46	44	HHFW H-mode HHFW Modulation	XP-413 XP-441
6/25/04	9.7	638.4	16.0	38	33	Chirping modes	XP-449
Week's End		638.4	16.0				
7/1/04	0.0	638.4	16.0	0	0	ISTP PF 4 commissioning	
7/2/04	8.6	647.0	16.2	28	27	Outer PF Start-up	XP-448
Week's End		647.0	16.2				
7/6/04	10	657.0	16.4	42	40	Long-pulse DN Long- pulse LSN	XP-402 XP-432
7/7/04	4.0	661.0	16.5	8	8	Lithium Pellet Inj.	XMP-34
7/8/04	11.5	672.5	16.8	38	33	Long-pulse LSN Lithium Pellet Inj.	XP-432 XMP-34
7/9/04	8.98	681.5	17.0	33	31	OH-M-mode L-H Transition ELM-Physics	XP-442 XP- 454 XP- 450
Week's End		681.5	17.0				
7/12/04	10.2	691.7	17.3	45	42	ELM Study HHFW Current Drive with MSE	XP-450 XP-403
7/13/04	9.7	701.3	17.5	29	25	Edge turbulence/fast probe Divertor detachment	XP-437 XP-438
7/14/04	10.9	712.2	17.8	39	38	Momentun effect on ion ITB High beta-p with MSE	XP-435 XP-414
7/15/04	10.3	722.5	18.1	27	26	Error field mode rotation/locking Error field /RWM growth	XP-435 XP-414
7/16/04	9.5	732.0	18.3	32	31	Error field mode rotation/locking Error field /RWM growth	XP-452 XP-455
Week's End		732.0	18.3				
7/19/04	9.7	740.7	18.5	39	37	HHFW / MSE	XP-403
7/20/04	10.0	750.7	18.8	32	30	RWM	XP455

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7/21/04	10.5	761.2	19.0	44	43	High beta eITB with MSE	XP-421 XP-411
7/22/04	4.1	765.3	19.1	12	12	High Te/MSE	XP-432
7/23/04	0.0	765.3	19.1	0	0	CHI Capacitor bank	ISTP
<b>Week's End</b>		<b>765.3</b>	<b>19.1</b>				
7/26/04	10.6	775.9	19.4	25	23	High Te/MSE MSE Calibration	XP-432 XMP-33
7/27/04	9.6	785.4	19.6	13	11	EBS Emission MSE Calibration	XP-405 XMP-33
7/28/04	7.5	792.9	19.8	33	29	Coaxial Helicity Injection (CHI)	XP-406
7/29/04	10.6	803.5	20.1	38	37	CHI	XP-406
7/30/04	8.7	812.2	20.3	38	37	CHI	XP-406
<b>Week's End</b>		<b>812.2</b>	<b>20.3</b>				
8/2/04	9.48	821.6	20.5	35	34	CHI	XP-406
8/3/04	7.88	829.5	20.7	29	28	PF-only Start-up	XP-433
8/4/04	4.94	834.5	20.9	16	13	High beta	XP-421
8/5/04	8	842.5	21.1	32	27	High beta Supersonic Gas Inj ELM Study PF-only Start-up	XP-421 XP 456 XMP- 35 XP- 448
<b>End of run</b>		<b>842.5</b>	<b>21.1</b>				
<b>Totals</b>		<b>842.5</b>	<b>21.1</b>	<b>2702</b>	<b>2460</b>		

\* Accumulated weeks = (Accumulated Run Hours)/40.0