

FY19 Q2 Laser Facility Report

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During the second quarter (Q2) of FY19, the Omega Laser Facility conducted 380 target shots on OMEGA and 196 target shots on OMEGA EP for a total of 576 target shots (see Tables I and II). OMEGA averaged 12.2 target shots per operating day averaging 95.0% Availability and 96.2% Experimental Effectiveness.

Table I: OMEGA Laser System target shot summary for Q2 FY19.

Program	Laboratory	Planned Number of Target Shots	Actual Number of Target Shots
ICF	LLE	99	106
	LANL	11	8
	LLNL	33	35
ICF subtotal		143	149
HED	LLE	22	21
	LANL	44	46
	LLNL	27.5	30
HED subtotal		93.5	97
LBS		33	33
NLUF		22	25
LLE calibration	LLE	0	76
Grand total		291.5	380

Table II: OMEGA EP Laser System target shot summary for Q2 FY19.

Program	Laboratory	Planned Number of Target Shots	Actual Number of Target Shots
ICF	LLE	52.5	73
	LLNL	14	12
ICF subtotal		66.5	85
HED	LLE	21	29
	LLNL	28	38
	SNL	7	7
HED subtotal		56	74
LBS		21	26
LLE calibration	LLE	0	11
Grand total		143.5	196

OMEGA EP was operated extensively in Q2 FY19 for a variety of user experiments. OMEGA EP averaged 8.2 target shots per operating day averaging 93.6% Availability and 98.4% Experimental Effectiveness.

In Q2 FY19, the full-beam in-tank (FBIT) diagnostic was used to characterize the on-shot, on-target focal spot of five additional OMEGA beams, bringing the total to 11 beams characterized. Measurements included near fields and far fields. The far fields have been measured with and without distributed phase plates, smoothing by spectral dispersion, and distributed polarization rotators. The far-field data represent on-shot conditions during OMEGA cryogenic experiments. An additional 20 beams will be characterized during the remainder of FY19 and early FY20, providing a more-complete characterization of on-target laser uniformity.

