FY19 Q3 Laser Facility Report

J. Puth, M. Labuzeta, and D. Canning

Laboratory for Laser Energetics, University of Rochester

During the third quarter (Q3) of FY19, the Omega Laser Facility conducted 357 target shots on OMEGA and 230 target shots on OMEGA EP for a total of 587 target shots (see Tables I and II). OMEGA averaged 11.6 target shots per operating day, averaging 91.7% Availability and 97.5% Experimental Effectiveness.

OMEGA EP was operated extensively in Q3 FY19 for a variety of user experiments. OMEGA EP averaged 7.9 target shots per operating day, averaging 96.7% Availability and 93.3% Experimental Effectiveness.

Additional neutron shielding is being added below the OMEGA target chamber to further limit background signal and noise on diagnostic measurements. The shielding will effectively minimize the size of the floor penetration required for cryogenic cart operations and reduce neutron scattering effects on diagnostics in the LaCave area. The shielding is being added in three phases to characterize the effectiveness and validate modeling (which will enhance calculations for future shielding design efforts). The final layer will be added in Q1 of FY20.

Table I: OMEGA Laser System target shot summary for Q3 FY19.

Program	Laboratory	Planned Number of Target Shots	Actual Number of Target Shots
ICF	LLE	82.5	99
ICF subtotal		82.5	99
HED	LLE	22	23
	LANL	44	52
	LLNL	38.5	47
	SNL	22	24
HED subtotal		126.5	146
CEA	CEA	11	13
RAL	RAL	11	9
LBS	LANL	11	10
	LLNL	33	38
	SLAC	11	13
LLE calibration	LLE	0	29
Grand total		286	357

Table II: OMEGA EP Laser System target shot summary for Q3 FY19.

Program	Laboratory	Planned Number of Target Shots	Actual Number of Target Shots
ICF	LLE	49	69
	LLNL	21	30
	NRL	7	6
ICF subtotal		77	105
HED	LLE	14	17
	LANL	7	7
	LLNL	21	25
HED subtotal		42	49
LBS	LLE	14	19
	LLNL	14	25
	SLAC	7	7
LLE calibration	LLE	0	12
Grand total		161	230