FY21 Q2 Laser Facility Report

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During the second quarter of FY21, the Omega Facility conducted 295 target shots on OMEGA and 202 target shots on OMEGA EP for a total of 497 target shots (see Tables I and II). OMEGA averaged 10.2 target shots per operating day, averaging 91.5% Availability and 97.8% Experimental Effectiveness. OMEGA EP averaged 7.8 target shots per operating day, averaging 88.4% Availability and 94.1% Experimental Effectiveness.

Table I: OMEGA Laser System target shot summary for Q2 FY21.

Program	Laboratory	Planned Number of Target Shots	Actual Number of Target Shots
ICF	LLE	60.5	61
	LANL	22	24
	LLNL	11	14
ICF Subtotal		93.5	99
HED	LANL	33	34
	LLNL	27.5	31
HED Subtotal		60.5	65
LBS	LLE	22	23
	LLNL	11	9
LBS Subtotal		33	32
AIBS		27.5	21
NLUF		55	51
Calibration	LLE	0	27
Grand Total		269.5	295

Table II: OMEGA EP Laser System target shot summary for Q2 FY21.

Program	Laboratory	Planned Number of Target Shots	Actual Number of Target Shots
ICF	LLE	28	40
	LLNL	7	7
ICF Subtotal		35	47
HED	LLE	7	8
	LANL	14	19
	LLNL	14	14
HED Subtotal		35	41
LBS	LLE	21	31
	LLNL	35	42
LBS Subtotal		56	73
LNet		7	6
NLUF		24.5	23
Calibration	LLE	0	12
Grand Total		157.5	202

For OMEGA and OMEGA EP shot planning efforts, the Experimental Proposal and Shot Request Form (SRF) systems were upgraded. The SRF now requires an association to the Proposal template during creation and uses this information to determine the date of the SRF. With this upgrade all SRF's can follow schedule changes with a single update.

The OMEGA Stage-F Alignment Sensor Package upgrade project has now completed 30 of 60 beamline systems. The cameras are being replaced with higher-resolution digital charge-coupled–device (CCD) equipment.

The OMEGA EP beam apodization system that ensures that the gaps between gratings in the pulse compressors do not see damaging laser fluence (known as the "gapodizers") had position sensors relocated for enhanced system safety. Two optics replacements have occurred of interest to the PI community: The OMEGA EP lower compressor deformable mirror was replaced due to laser damage accumulated over years of operation, and the OMEGA EP "backlighter" beam's off-axis parabola (OAP) focusing optic was replaced with a reworked OAP.