

## Section 4

# LASER SYSTEM REPORT

### 4.A GDL Facility Report

There was a total of 391 GDL shots during the fourth quarter of FY91. The target shots were in support of NLUF users from the University of Illinois and the National Institute of Standards and Testing. The laser experimental shots were used to measure Bessel-beam propagation, IR film MTF curves, and a project in support of the LLE high school summer student program.

The shot summary for the GDL laser this quarter is as follows:

Laser system	62
Laser calibration	24
Laser experiments	101
Target	<u>204</u>
TOTAL	391

### 4.B OMEGA Facility Report

There was a total of 353 OMEGA shots during the fourth quarter of FY91. The majority of shots were devoted to the driver line. The primary activity for this quarter was the final installation of the pulse-shaping apparatus. Pulses from the long-pulse regenerative amplifier, with widths set to 750-ps FWHM to approximate the output of the previous OMEGA oscillator, are now injected into the OMEGA driver line and from there into the remainder of the power-amplifier chain. This system is now an integral part of the OMEGA laser system.

The system is now being readied for target shots on D<sub>2</sub> and DT implosion targets. The 11 target shots were used to check system timing, target diagnostics, and laser status. The OMEGA transport integrating sphere (OTIS) has been rebuilt and is used to characterize the transport losses from the conversion crystals to the center of the target chamber. Target shots will start during the first quarter of FY92 and are to continue until the October 1992 shutdown of the OMEGA laser.

The shot summary for OMEGA this quarter is as follows:

Software test	8
Driver	263
Laser	71
Target	<u>11</u>
TOTAL	353

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