

The following information provides guidance for the Vulcan experimental areas for the 2012-13 proposal call. It is recommended that you discuss your laser and experimental requirements with the appropriate CLF personnel prior to submission of your proposal.

TAP: Following the replacement of the main optical components, TAP will operate at 600J prior to compression, with a compressed pulse duration of 500fs. The beamline efficiency is measured to be in the order of 65% (August 2011) and a summary of the leading edge contrast given in the table below. Standard F3 focusing is available on the CPA beamline. A single long-pulse beamline is available with specifications as per TAW.

Time	-1ns	-50ps	-30ps	-10ps
Contrast Level	⁻¹⁰ 10	⁻⁸ 10	⁻⁷ 10	⁻⁵ ~10

TAW: TAW can provide 2 main CPA beamlines - B7 and B8. B7 operates with an energy limit of ~100J prior to compression and a compressed pulse duration of ~1ps. The compressed pulse can be increased in duration within reasonable parameters. B8 has 2 operating modes. Mode 1 has the same specifications as B7. Mode 2 operates at higher laser energies of up to 300J prior to compression for pulse durations of 10ps or longer. Both CPA beamlines have a measured efficiency (July 2011) of 75-80% of the delivered laser energy when using standard experimental configurations. Standard F3 focusing is available, and longer F#s are available at sub apertures (please contact facility staff for details).

The Long pulse specifications for both TAP and TAW are unchanged. The maximum long pulse energies depend on the pulse duration. Indicatively each beam could fire 80J in 200ps, 175J in 500ps, 250J in 1ns or 280J in 6ns. The shape of the pulse could be shaped with a temporal resolution down to 100ps. Special configuration and/or pulse shape may reduce the available energy. It is recommended that shaped long-pulse requirements be discussed with facility personnel prior to submitting a proposal.