COMMENTS

I take real pleasure in having this special issue on KrF lasers for inertial confinement fusion (ICF) appear in *Fusion Technology* (*FT*). The concept of a special issue on this topic arose from discussions last year in the Editorial Advisory Board for *FT*. Don Dudziak from Los Alamos National Laboratory, who is on the board, volunteered to serve as guest editor for this issue (readers of the Preface, prepared by Don Dudziak for this issue, will discover that there is, in fact, some confusion about who "volunteered" whom!). Don, with the able help of Dianne Hyer and David Harris, was extremely effective in both the planning and the mechanics of producing this issue. They deserve much credit for the success of this endeavor.

The coverage provided here on KrF laser technology and on associated system requirements is unique in that it brings much of this information together in one place for the first time. This should be most helpful and important to persons interested in future directions in ICF.

It is well known that a laser driver for ICF must meet very demanding efficiency and repetition rate requirements in order to successfully compete with other candidate drivers, including light and heavy ion beams. (Indeed, a special issue on heavy ions is scheduled for late fall and one on light ions is under consideration.) In the early days of ICF development, such a laser was often referred to as the "brand X" laser. The view then was that ICF and a practical laser were too far from reality to deserve serious consideration. In the subsequent years, much progress has been made on both technologies. Thus, at the Eleventh International Conference on Plasmas Physics and Fusion Research in Kyoto, Japan, November 13-20, 1986, groups from both the United States and Japan reported high-yield laser-driven target implosion experiments and confidently projected the demonstration energy breakeven within a few years. Consequently, the time is rapidly approaching when a workable laser driver (versus the single-pulse, low-efficiency, glass lasers currently used for implosion experiments) must be developed, or the hope for a practical laser driver in time to compete for reactor use will vanish. The KrF program represents a major step to determine the practicality of the laser approach. As a result, the technology described in this special issue becomes particularly timely and important.

In closing, I want to join with our "guest" staff in giving our sincere thanks to the authors and reviewers for the extra effort they put into the development of the papers for this issue. Due to the tight time schedule that developed, the review and revision processes were especially demanding and required several people to "burn the midnight oil." However, I am confident that all contributors to the issue will gain a feeling of pride in the quality of this unique issue.

George Miley