COMMENTS

We are extremely pleased that Larry Foreman, Ken Schultz, Tom Bernat, and Bob Cook undertook the preparation of this special issue of *Fusion Technology* (*FT*) on inertial confinement fusion (ICF) target fabrication. This is extremely timely because ICF has been making steady progress, as is visibly demonstrated in the United States by the recent upgrade of the Omega laser at the University of Rochester and the design approval for the National Ignition Facility (NIF). New facilities are also being planned in Europe and Japan. The ICF target plays a special role in the eventual development of fusion power. The current target fabrication technology faces daily challenges to produce unique designs for use in experiments. Anyone who has seen these targets, sometimes containing double or triple walls and having a diameter the size of a human hair, is amazed that they can be fabricated at all. The final challenge will be to develop an automated target manufacturing facility that can mass produce targets at a price that will not add significantly to the cost of electricity produced in the ICF plant. In this sense, an analogy can be drawn between ICF targets and the uranium fuel element for fission power plants.

The history of this field is very fascinating—I recall just a few points here. When KMS Fusion first started its ICF program, Dr. Henry Gomberg secured microspheres of glass from a manufacturer who used them in fluorescent paint for highway signs. The problem then was that thousands of these microspheres had to be examined under a microscope to select one that met the symmetry and uniformity requirements. Much has been learned since those early days. The pioneer in the area, Dr. Charles Hendricks, was instrumental in organizing the series of Target Fabrication Specialists' Meetings that led to the current meeting, represented by papers in this special issue. Dr. Hendricks was a colleague of mine at the University of Illinois, and I recall that his original work with "targets" involved microdroplets of electrostatic printing ink and later pellet acceleration and injection into tokamaks. Indeed, his group led the effort for the first pellet-injection experiments on the ORMAK tokamak at Oak Ridge National Laboratory. Later, he used this expertise to tackle ICF target fabrication at Lawrence Livermore National Laboratory.

In closing, I wish to thank the authors for their cooperation in the preparation and review of these manuscripts and Larry Foreman for his effort as guest editor. I hope that *FT* will receive additional leading papers on target manufacture as this field continues to evolve.

George Miley