

Section 3

DEVELOPMENTS IN MICROFABRICATION

3.A Consolidation of Target Group at LLE

During this period the last phase of the transfer of the target development laboratory from the Exxon Research Laboratories at Linden, New Jersey, to LLE was completed. All activities associated with fusion target and materials development are now performed in the consolidated target fabrication laboratories at LLE.

Concurrent with the consolidation of target fabrication activities at LLE, a re-organization of this program has taken place. The new group leader for target fabrication is Dr. John Miller formerly of Los Alamos National Scientific Laboratory. Recent additions to the group include Dr. Merle Hirsh from the University of Minnesota and Dr. Hyo-Gun Kim from the Allied Chemical Corporation. The group now has eleven full-time and two part-time members.

Some of the current capabilities of the target fabrication laboratories include:

- Physical vapor deposition facility
- Photolithography facility
- Reactive ion etcher
- Polymer coater (parylene process vapor phase coater)
- Scanning electron microscopes – an Amray 1000A capable of 100,000X magnification with resolution of 15 nm and an ISI Super II with magnification of 65,000X
- Extensive optical microscopy capabilities including a