top-level document has been approved by DOE-ORO, and the Interface Working Agreement document identifies the organizations having approval and concurrence responsibilities for other important quality-related documents related to Energy Systems activities. With regard to the timely delivery of these Energy Systems–fabricated components, DOE-OSA has facilitated the preparation of an integrated delivery schedule for all components and subassemblies. This integrated schedule provides the current basis for determining Energy Systems component delivery requirements (Fig. 5).

2.3.1 Iridium Alloy Blank and Foil Production Task

The processing of iridium powder into blanks and foil is required before subsequent processing of these blanks and foil into CVS. The initial processing is performed at ORNL using the metal-working equipment located in the Metals and Ceramics (M&C) Division. Activities associated with the fabrication of iridium-alloy blanks have been in continuous operation since before 1980 (Fig. 6). The process in use now requires blending and consolidation of iridium powder and alloying iridium with 0.3% tungsten and 60 and 50 ppm thorium and aluminum, respectively, for blanks. For the foil application, a similar alloy containing only 30 ppm thorium is used. This material is electron-beam and consumable-arc melted, extruded to sheet bar, and rolled to 0.035-in.-thick sheet or 0.005-in.-thick foil. Iridium-alloy blanks are machined from this sheet, and both blanks and foil are dimensionally and nondestructively inspected and certified as meeting specifications requirements before shipment to the Y-12 Plant (Fig. 7). The systems in place at ORNL to ensure the quality of the iridium-alloy blanks and foil remains unchanged from those used to ensure the quality of hardware manufactured by ORNL for the Galileo and Ulysses spacecraft. Assurances that these systems currently are being followed has been determined through recent audits performed by the M&C Division, ORNL, and Energy Systems personnel. To further ensure these quality requirements are met, a quality review of this task is planned for June 1990. The quality review team will include participants independent of Energy Systems.

Since the time of the Galileo and Ulysses production activities, some changes have been made in the processing methods to improve the yield and metallurgical quality of blanks and foil. Specifically, the size of the initial ingot was increased from ~0.7 kg per ingot to ~4 kg per ingot. The