Jennifer Traylor and Roman Chrzan, specialists in the Optical Manufacturing Group, monitor application of dielectric thin films on optical elements in the newly installed 72-in. vacuum chamber. This chamber complements two other vacuum chambers in the Optical Manufacturing Department, which will be used to apply optical coatings to the OMEGA Upgrade mirrors, beamsplitters, and polarizers. The 72-in. chamber will be used to coat the largest of the optical components, including the frequency-conversion polarizers and ultraviolet transport mirrors.