Volumetric modulated arc therapy (VMAT) is an arc-based dose delivery approach that produces highly conformal dose distributions similar to those generated with static gantry intensity modulated radiation therapy. Like many existing IMRT approaches, this treatment technique can be delivered with a standard linear accelerator that is equipped with a conventional multileaf collimator (MLC). During arc beam delivery the dose rate, the speed of the gantry, and the position of the MLC leaves are varied dynamically. The AAPM has a working group, under the Therapy Physics Committee of the Science Council, preparing a report that provides general guidelines and recommendations for safe, error-free use of this new technology. This presentation will review the information in the report of the Therapy Emerging Technology Assessment Working Group (TETAWG). A major advantage of this IMRT approach is the speed of dose delivery. This makes VMAT ideally suited for meeting the challenges of delivering the higher daily doses that are necessary for the hypofractionated treatment techniques. All accelerator manufacturers that use a traditional rotating gantry geometry have implemented this technology, and an additional number of treatment planning systems are now available to handle this part of the VMAT dose delivery process. The development of this technology is rapid and there is a great need for clearly describing the overall QA requirements for VMAT. This presentation will address this need by discussing Acceptance Testing, Commissioning, and ongoing QA methodologies for VMAT.

Objectives:
1. To understand the Acceptance Testing procedure for a new VMAT delivery system, a retrofitted VMAT capability, or a VMAT treatment planning system
2. To understand the Commissioning process for the situations listed above
3. To understand the requirements for ongoing routine QA for VMAT