

In early 1990, the absorbed-dose-to-water rate was established at the National Institute of Standards and Technology (NIST) by means of the Dosem water calorimeter. Internationally, there is a move towards absorbed-dose-to-water calibrations of high-energy radiotherapy beams. The AAPM has initiated a program to replace the current protocol (TG-21) utilizing exposure calibration of ion chambers with one which employs an absorbed-dose-to-water calibration of the same ion chambers. The NIST has developed a protocol to transfer the absorbed dose to water determined by the water calorimeter in a  $^{60}\text{Co}$  beam to calibration of ionization chambers. Two ion chambers were sent to the Bureau International des Poids et Mesures (BIPM) for comparison with the international absorbed-dose-to-water standards. Preliminary results show that NIST agreed with the BIPM to within 0.40%. In December of 1997, NIST offered its official absorbed-dose-to-water calibration service to the AAPM ADCLs. The AAPM plans to offer its absorbed-dose-to-water calibration service through the ADCL during the summer of 1998. A description of the NIST protocol for its calibration service is presented.