Intercomparisons are performed between national and international standard laboratories in order to maintain the integrity of the measurement chain in the user community. At a recent meeting of the CCEMRI (Consultative Committee) at the BIPM the recommendation was made to increase the frequency of international comparisons of x-ray standards. NIST has undertaken the presently described effort in order to comply with this recommendation. In addition, direct comparisons using primary standards in the mammography x-ray range have never been performed. An indirect comparison with PTB was performed in 1997 using transfer standards. The NIST medium-energy x-ray free-air ionization chamber (FAC) standard has never been directly compared except in-house. Direct comparisons using low-energy x-rays (10-50kV) are necessary in order to minimize the associated uncertainties. Two NIST FAC x-ray standards will be compared at NPL and BIPM for the first time. The NIST low-energy x-ray standard will be compared for the first time at ENEA and for the second time at the BIPM. The BIPM low-energy comparison will serve as a check on the stability of the NIST standard. This talk will discuss the uncertainty budget for the comparison measurements, the results of the comparisons, the results versus the uncertainty budget, and the importance of international comparisons to the AAPM Accredited Dosimetry Calibration Laboratories.