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The reliability and maintenance community has often referred to the "half-life" of a repaired electric motor. The use of this term is based upon the belief that a repaired electric motor will have about half the expected life of a new electric motor. Could this be true?

In Advanced Energy's 2006 project report entitled "Achieving More with Less: Efficiency and Economics of Motor Decision Tools," researchers discussed a provided Weyerhaeuser study in which it was found that 50% of new motors failed in seven years and 50% of rewinds lasted only 3.5 years. With an industry-estimated motor life of 20-30 years, depending on author/study and topic, the Weyerhaeuser findings appeared to indicate that the environment for the study was relatively harsh. Nevertheless, those findings do lend credence to the belief that a repaired motor will last only half as long as a new motor.

In August 1995, well before Advanced Energy's report was published, the United States Department of Energy (USDOE) had produced a report entitled "Industrial Motor Repair in the United States," which noted that 80% of repair shops modified windings through the repair process; 41% admitted to using temperatures more than 750 F (although standard industry practice called for a limit of 650 F); and, less than half of repair shops performed any testing during the repair process other than insulation to ground testing. The question today is, "Have things changed much over the past 14 years?"

To get the most life out of their repaired motors, users should familiarize themselves with the processes their motor repair shops employ. That means actually visiting the repair shop to ensure that it is complying with standard industry practice. Details on questions to ask and what to look for will follow in future "Hot Topics" columns. Despite what you might have heard in the past, you can expect full life from your repaired motors. **MT**

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