

Tinker Air Force Base's Software Division Wins IEEE Award

THE OKLAHOMA CITY AIR Logistics Center Directorate of Aircraft Management Software Division's Test Software and Industrial Automation Branches won the IEEE Award for Software Process Achievement.

The award was announced in May at the Internal Conference on Software Engineering in Los Angeles and presented in August.

"Just to be named a finalist for this award is a major achievement," said Kelley Butler, the division's focal point for quality and process improvement. Past winners include NASA/Goddard in 1994; Raytheon, 1995; and Hughes, 1997. In 1996 and 1998, applicants' achievements were not considered significant enough to warrant giving the award.

Tinker's Test Program Set and Industrial Automation functions were selected as one of two finalists in late 1998. A review board representing the Institute of Electrical and Electronics Engineering came to Tinker in March to discuss issues and concerns it had with the information in the division's nomination package.

The review team consisted of Barry Boehm, professor at the University of Southern California's Center for Software Engineering; Victor Basili, professor at the University of Maryland's Computer Science Department; Watts Humphrey, fellow at the Software Engineering Institute (SEI); Manny Lehman, professor in the Distributed Software Engineering Section at Imperial College, London, England; and Bill Riddle, SEI.

The division received a set of five detailed questions from the IEEE evaluation team in January and prepared its responses, which were given to the review team in March. The questions were designed for respondents to clarify and expand upon points presented in the nomination package.

"The preparation for responding to the team's questions was very similar to getting ready for an essay-type exam you



Walt Lipke, deputy chief of Tinker's software division, accepts the IEEE Award for Software Process Achievement from Watts Humphrey.

would have in a college class," said Walt Lipke, deputy chief of Tinker's software division.

"The first question was so involved, it took four hours to complete our response. At that point, I wondered if we would be able to complete the review in one day. But after the initial question was answered, many of the issues in the remaining questions were already answered. Only two hours were needed for the last four issues," said Lipke.

The next day, Lipke learned of the review team's unanimous recommendation that the IEEE select Tinker for the award.

In its selection, the review team cited the Test Software and Industrial Automation Branches for Tinker's outstanding record of process and product improvements. In March 1993, Tinker's software division was the first Air Force organization to achieve Level 2 from the five-level SEI Software Capability Maturity Model. In November 1996, these software functions became the first in federal service to achieve a Level 4 rating. In September 1998, these components achieved registration of their quali-

ty system. They did this by successfully passing an audit against the requirements of ISO 9001/TickIT — the software implementation of the international standard for quality systems — Model for Quality Assurance in Design, Development, Production, Installation, and Servicing.

The software improvements have provided significant customer benefits. Over the last five years, the amount of effort nominally required to design, develop, and deliver a test program set has been reduced by 37 percent, a reduction from 1,600 to 1,000 man hours. The cycle time, from the beginning of the project to completion, was reduced by 15 percent, going from 13 to 11 months; product defects have been eradicated to 99 percent.

"Accepting the IEEE Award for Software Process Achievement at the International Conference on behalf of Tinker's software division was a great thrill and honor for me," said Lipke. "Receiving the award confirms the significance of the software process improvement achievements." ♦