N404. COMPREHENSIVE LOW-COST RELIABILITY CENTERED MAINTENANCE

Utilities can reduce preventive maintenance costs by applying systematic reliability centered maintenance (RCM) principles on a plantwide basis. The streamlined RCM methods described in this report are designed to optimize maintenance programs by controlling the scope without sacrificing documentation or technical quality. These cost-effective methods have been validated on a large number of plant system and offer a payback of one year or less.

Prior to this project, many nuclear plants had found that although RCM enabled them to reduce maintenance costs significantly, the nonrecurring costs were so high that the techniques could not be employed economically for large numbers of systems. A few utilities pioneered their own modified versions of the RCM approach with some success, but the methods differed substantially and their technical validity was uncertain. This project was designed to demonstrate a factor of two reduction in nonrecurring RCM costs through streamlining the RCM process while maintaining a high quality product.

EPRI organized a workshop in which a number of utilities described the most economical approach to RCM. Information was reduced to three RCM methods. They were easily implemented and provided the same sets of critical components as standard RCM. The methods provided varying degrees of documentation and offered a range of cost savings. However, all were much more efficient than standard RCM.

One significant additional tool was developed during this project to speed the selection of preventive maintenance tasks. Maintenance templates offer a convenient way to represent standard maintenance tasks for a given type of equipment. In practice, maintenance personnel preselect and approve standard maintenance tasks. RCM analysts then use these tasks to achieve consistency in more rapid assignments of preventive maintenance tasks to critical components.

For more, "Comprehensive Low-Cost Reliability Centered Maintenance," EPRI TR-105365, Final Report, September 1995.