

# TECHNICAL BULLETIN ON THE USE OF MILITEC-1® FOR BEARING JOURNAL MAINTENANCE

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The Supervisor, Plant Operating Technicians, at a power generating station in the mid-Atlantic states, found MILITEC-1 to be of value for machining bearing journals in place on gas turbines. While this utility company has routinely used MILITEC-1 in many different types of equipment, it is not yet used in the gas turbines. He reports as follows:

We machine bearing journals in the gas turbines in place at a horizontal when they get worn and we can measure a high vibration. To do this without taking the plates off and removing the rotor, we use a dummy bearing assembly that we put on the No. 1 bearing area as we remachine the journal area of the rotor. In the past, we have had a hard time turning the rotor using an air motor which is a bit too small. To successfully turn the rotor, four technicians will manually bar it over. This is a dangerous job for four people on a pipe. The last time we did this we were using STP on the dummy bearing to lubricate it. However, the bearing kept heating up to the point it was throwing the alignment of the cutter off, and the men would have to wait until it cooled back down. When it overheats, the Babbit material in the bearing melts and the bearing needs to be rebuilt. We cleaned off the STP and squirted MILITEC-1 onto the top of the journal. Then we barred the rotor over to get to the journal bottom and squirted MILITEC-1 there as well.

The bearing never got hot again. Work did not have to stop to let it cool off. The air motor, even though undersized, was then able to spin the rotor. While one important benefit of using MILITEC-1 was saving four person-days of work, another important benefit was that the quality of the cut was improved due to better alignment of the cutter tool, providing a better finish on the journal. The dummy bearing is better lubricated so it will last longer. An added benefit was improved safety as the task of barring the rotor was eliminated. It is difficult to quantify all of these benefits but they far outweigh the almost insignificant cost of the little MILITEC-1 used.