

*Proceedings of the
Thirty-Second
Turbomachinery Symposium*

Sponsored by the
Turbomachinery Laboratory
Texas Engineering Experiment Station
The Texas A&M University System

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with assistance from
The Advisory Committee
and
The Turbomachinery Laboratory Staff

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Preface

These Proceedings contain papers from the lectures for the Thirty-Second Turbomachinery Symposium, held in Houston, Texas, September 8-11, 2003. The Symposium is sponsored by the Turbomachinery Laboratory, of the Texas Engineering Experiment Station, The Texas A&M University System.

The Turbomachinery Symposium was established as a forum for users and manufacturers of industrial turbomachinery. Because of many overlapping areas of interest, the symposia are directed primarily to commercial users with the utility and petrochemical industries.

The Advisory Committee for the Thirty-Second Turbomachinery Symposium and past symposia have had a continuing influence on the content and direction of the symposia. The committee is composed of recognized leaders in the commercial turbomachinery field from users and manufacturers. Based on their experience and knowledge of the field, papers are solicited and selected to address contemporary problems of interest. Their continued assistance is wholeheartedly appreciated.

Essential elements of the symposia that are not entirely covered by this proceedings include six short courses that preceded the symposium, eight case studies, 18 discussion groups, and a product exhibit show. The short courses are: Machinery Failure Analysis, Turbomachinery Diagnostics and Condition Assessment, Advanced Gas Turbine Technology, Dry Gas Seals, Review of API TP 684, and Reciprocating Compressor Performance Measurement and Condition Analysis.

This symposium includes a "case study" format. Presentations are made of a problem, its resolution, and the lessons learned. Persons attending the case studies receive copies of the presentations.

The discussion groups are led by engineers with a great deal of experience in the subject areas, and they facilitate discussion from the floor. Attendees actively participate in the discussion groups, and many use this forum to get sound advice from their peers on problems of immediate importance. The discussion groups facilitate a quick transfer of information across industry boundaries.

The product exhibit show has more than 200 companies and features new products, accessories, and analysis tools. This aspect of the symposium has continued to improve over the past several years in the quality and range of products exhibited.

Again, the vigorous support of the Advisory Committee is appreciated. My very considerable thanks are also extended to lecture authors, short course speakers, tutorial leaders, case study presenters, and discussion leaders. Both personally, and on behalf of the Advisory Committee, a special "thank you" is extended to the exhibiting companies and their representatives.

Finally, the efforts of the Turbomachinery Laboratory staff in seeing through the detailed execution of the symposium are greatly appreciated, with particular thanks extended to Gary Balmain. With regard to this proceedings, my personal thanks is extended to Joanne Burnett for her excellent work in editing, preparation, and organization.

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