

List of Dr. Boyce's Books and Publications

BOOKS

Centrifugal Compressor: A Basic Guide. PenWell Press 2001 Tulsa OK

Gas Turbine Engineering Handbook. Second Edition, Butterworth-Heinemann Publisher, March 2001

Cogeneration and Combined Cycle Power Plants. ASME Press 2000, New York

Perry's Chemical Engineering Handbook. 6th ed., McGraw Hill: 1997. Chapters on Fluid Machines and Gas Turbines.

Gas Turbine Engineering Handbook. German Edition, Springer Verlag, Berlin, Germany: 1997.

Gas Turbine Engineering Handbook. 5th.Printing. January 1992, Houston: Gulf Publishing, 1987.

TurboMachinery Maintenance Handbook. Houston: Boyce Engineering International, 1983

Centrifugal Compressor Handbook. Houston: Boyce Engineering International, 1981.

Air Movement and Vacuum Devices. Process Equipment Series. 2 vols. Connecticut: Technomic Publishing, 1981.

PUBLICATIONS

TECHNICAL

- Boyce, M. P., Advanced Cycles for Combined Cycle Power Plants, Russia Gas Turbo-Technology Publication, November-December 2000**
- Boyce, M. P., Turbo-Machinery for the Next Millennium, Russia Gas Turbo-Technology Publication, September-October 2000**
- Boyce, M. P., Gonzales F.J. " Solutions to Field Problems of a Gas Turbine-Axial Flow Chemical Process Compressor Train based on Computer Simulation of the Process" Proceedings of the 28th. TurboMachinery Symposium, Texas A & M University, September, 1999. pp 89-104.**
- Boyce, M. P. " Managing Power Plant Life Cycle Costs", Russia Gas Turbo-Technology Publication, January - February 2000**
- Boyce, M. P. " Performance Characteristics of a Steam Turbine in a Combined Cycle Power Plant" Proceedings of the 6th. EPRI Steam Turbine Generator /Workshop August 1999.**
- Boyce, M. P. " Cutting Edge Turbine Technology" Middle East Electricity October/November 1999**
- Boyce, M. P. "Condition Monitoring of Combined Cycle Power Plants" Asian Electricity July/August 1999, pp35-36**
- Boyce, M. P. " Managing Power Plant Life Cycle Costs" International Power Generation, July 1999, pp21-23.**
- Boyce, M. P. "Performance Monitoring of Large Combined Cycle Power Plants" Proceedings of the ASME 1999 International Joint Power Generation Conference, July 1999, San Francisco CA. Volume 2 pp183-190.**
- Boyce, M. P. " How to Identify and Correct Efficiency Losses through Modeling Plant Thermodynamics" Proceedings of the CCGT Generation Power Conference, March,1999, London U.K.**
- Boyce, M. P. "Total Performance Condition Monitoring Of Major Petrochemical Facilities" Presented at the Materials, Selection and Application in the Chemical Process Industry Seminar, London, UK, Sponsored by The Institute of Materials, and co-sponsored by Institute of Chemical Engineers, and the Institute of Corrosion, November 1998.**
- Boyce, M.P. "The Economics of Captive Power Plants." – Presented at Power In The Gulf conference in December 1997.**
- Boyce, M.P. and Cox, William M. "Condition Monitoring Management-Strategy." – Presented at The Intelligent Software Systems in Inspection and Life Management of Power and Process Plants in Paris, France, August 1997.**
- Boyce, M.P. and Venema, J. Condition Monitoring and Control Center – Presented at the Power Gen Europe in Madrid, Spain, June 1997.**

- Boyce, M.P. "Improving Performance with Condition Monitoring" – Power Plant Technology Economics and Maintenance, March/April 1996, pp. 52-55.**
- Boyce, M.P. "Control and Monitoring an Integrated Approach." Presented at Middle East Electricity, December 1994, pp. 17-20.**
- Boyce, M.P., Meher-Homji, C.B., Lakshminarasimha, A.N., gas Turbine and Combined Cycle Technologies for Power and Efficiency enhancement in Power Plants ASME 94-GT-435**
- Boyce, M.P., Gabriles, G.A. and Meher-Homji, C.B. "Enhancing System Availability and Performance in Combined Cycle Power Plants by the Use of Condition Monitoring." Presented at the European Conference and Exhibition Cogeneration of Heat and Power. Athens, Greece. 3-5 Nov. 1993.**
- Boyce, M.P. and Herrera, G. "Health Evaluation of Turbine Engines Undergoing Automated FAA Type Cyclic Testing." Presented at the SAE International Ameritech '93. Costa Mesa, CA, 27-30 Sept. 1993. SAE Paper No. 932633.**
- Meher-Homji, C.B., Boyce, M.P., Lakshminarasimha, A.N., Whitten, J.A. and Meher-Homji, F.J. Condition Monitoring and Diagnostic Approaches for Advanced Gas Turbines." Proc. ASME Cogen Turbo Power 1993. 7th Congress and Exposition on Gas Turbines in Cogeneration and Utility. Sponsored by ASME in participation of BEAMA. IGTI-Vol. 8 Bournemouth, United Kingdom. 21-23, Sept. 1993. pp. 347-55.**
- Boyce, M.P., Gabriles, G.A., Meher-Homji, C.B., Lakshminarasimha, A.N. and Meher-Homji, F.J. "Case Studies in Turbomachinery Operation and Maintenance using Condition Monitoring." Proc. of the 22nd Turbomachinery Symposium. Dallas, TX. 14-16 Sept. 1993. 101-12.**
- Boyce, M.P. "Principles of Operation and Performance Estimation of Centrifugal Compressors." Prod. of the 22nd Turbomachinery Symposium. Dallas, TX. 14-16 Sept. 1993. 161-78.**
- Boyce, M.P., Meher-Homji, C.B., and Lakshminarasimha, A.N. "Evolution of a Unified Turbomachinery Condition Monitoring System and its Application to Gas and Steam Turbine Utility Plants." Proc. of 3rd EPRI Steam Turbine/ Generator Workshop. Albany, NY. 20-23 July 1993.**
- Boyce, M.P. "Turbomachinery Condition Monitoring Systems for the Hydrocarbon Processing Industry." Hydrocarbon Technology International Magazine. 26-27 June 1993.**
- Boyce, M.P., Lakshminarasimha, A.N., and Meher-Homji, C.B. "Design and Implementation of an advanced Multi-Machine Gas Turbine Train Condition Monitoring and Control system." Presented at the Third Congress of Turbomachinery. Queretaro, Mexico. Dec. 1992.**
- Lakshminarasimha, A.N., Boyce, M.P. and Meher-Homji, C.B. "Modeling and Analysis of Gas Turbine Performance Deterioration." Presented at the 37th ASME International Gas Turbine and Aeroengine Congress and Exposition. Cologne, Germany. 1-4 June 1992. ASME Paper No. 93-GT-395.**

- Boyce, M.P. "Performance Monitoring of Cogeneration Facilities." Presented at the 1st International POWER Technology Exposition and Conference. McCormick Place, Chicago. Oct. 31-Nov. 2, 1989.**
- Boyce, M.P. and Echeagaray, L.E. "Aerothermal Analysis Improves Efficiency and Availability of TurboMachinery." Plant Services Handbook of Computerized Maintenance Management and Predictive Maintenance. Oct. 1989, pp. 102-104.**
- Barnes, G., Boyce, M.P., Wooldridge, B. and Meher-Homji, C.B. "On-Line Condition Monitoring of Two Westinghouse CE 352 Gs Turbine Compressor Sets." Proc. of the 8th NRCC Symposium on Industrial Application of Gas Turbines. Ottawa, Canada, 24-27 Sept. 1989. 85-98.**
- Boyce, M.P., Bhargava, R.K. and Chinoy, R. "On-Line Condition Monitoring of TurboMachinery." Proc. of the 1st International Machinery Monitoring and Diagnostic Conference. Las Vegas, NV. 11-14 Sept. 1989. 419-27.**
- Boyce, M.P., Meher-Homji, C.B. and Wooldridge, B. "Condition Monitoring of Aero-derivative Gas Turbines." Presented at the Gas Turbine and Aeroengine Congress and Exposition. Toronto, Canada. 48 June 1989. ASME Paper No. 89-GT-36.**
- Boyce, M.P., Meher-Homji, C.B. and Mani, G. "A Diagnostic Methodology for Condition Monitoring of High Speed TurboMachinery." Presented at the Society of Tribologists and Lubrication Engineers Conference. Atlanta, GA. 1-4 May 1989. Publication No. STLE SP-27.**
- Boyce, M.P. "Rerating of Centrifugal Compressors-Part II." Diesel and Gas Turbine Worldwide. Jan.-Feb. 1989. 8-20.**
- Unsal, R. and Boyce, M.P. "Experience with On-Line Condition Monitoring System." Proc. of the 17th TurboMachinery Symposium. Dallas, TX. 810 Nov. 1988. pp.57-66.**
- Boyce, M.P. "Rerating of Centrifugal Compressors-Part I." Diesel and Gas Turbine Worldwide. Oct. 1988. 46-50.**
- Boyce, M.P. "Advanced Condition Monitoring Protection and Control of TurboMachinery." Presented at the BHRA Conference. Milton Keynes, U.K. 27-28 Oct. 1988. Paper C-4.**
- Boyce, M.P. "Advanced Maintenance Management System Design for the LM2500 Gas Turbine." Presented at the SAE Conference and Exposition on Future Transportation Technology. San Francisco, CA. Aug. 1988. SAE Paper No. 881171.**
- Boyce, M.P. "Advanced Monitoring Protection and Control of TurboMachinery." Diesel and Gas Turbine Worldwide. May 1988.**
- Boyce, M.P. "Rerating of Centrifugal Compressors." Proc. of the 16th Texas A&M TurboMachinery Symposium. Dallas, TX. 27-29 Oct. 1987.**

- Boyce, M.P., "Higher Availability and Efficiency Using On-Line Real Time Diagnostic and Prognostic System on Gas Turbine Compressor Trains." Presented at the ASME Beijing International Gas Turbine Symposium and Exposition. 1-7 Sept. 1985.**
- Boyce, M.P., Bowman, J.C., Meher-Homji, C.B. and Focke, A.B. "Energy Efficient Operation of Gas Turbine Compressor Sets." Presented at the ASME Gas Turbine Conference and Exhibit. Houston, TX. 18-21 Mar. 1985. Publication No. 85-GT-78.**
- Boyce, M.P., Meher-Homji, C.B. and Focke, A.B. "An Overview of Cogeneration Technology-Design Operations and Maintenance." Proc. of the 13th TurboMachinery Symposium. Houston, TX. 13-15 Nov. 1984. 3-24**
- Boyce, M.P., Meher-Homji, C.B., Focke, A.B. and Bowman, J.D. "Detection of Turbomachine Blading Problems Using On and Off-Line Analysis." Proc. of the EPRI Conference. Incipient Failure Detection in Power Plants. Buena Vista, FL. 10-12 Oct. 1984.**
- Boyce, M.P., Bohannan, W.R., Brown, R.N., Gaston, J.R., Meher-Homji, C.B., Meier, R.H. and Pobanz, N.E. "Practical Aspects of Centrifugal Compressor Surge and Surge Control Systems." Proc. of the 12th TurboMachinery Symposium. Houston, TX. 15-17 Nov. 1983. 147-73.**
- Boyce, M.P., Meher-Homji, C.B. and Mani, G. "The Development and Implementation of Advanced On-Line Monitoring and Diagnostic Systems for Gas Turbines." Presented at the 1983 GTSJ Tokyo International Gas Turbine Congress. Tokyo, Japan. 23-29 Oct. 1983. Paper No. 83-Tokyo-IGT-94.**
- Boyce, M.P., Mani, G. and Meher-Homji, C.B. "Reliability Improvement of Aerothermal Analysis of High Speed Rotating Machinery." Presented at the Design and Production Engineering Technical Conferences, ASME. Dearborn, MI. 11-14 Sept. 1983. 89-96.**
- Boyce, M.P., Meher-Homji, C.B., Mani, G., Lam, T. and Ansell, R. "Operating Experience with Health Monitoring and Diagnostics of M.D. Steam Turbines and Centrifugal Compressors." Presented at the ASME Joint Power Gen. Conference (JPGC). Sept 1983. Publication No. 83-JPGC-PWR 28. 1-8**
- Boyce, M.P. "Aerothermodynamic Gas Path Analysis for Health Diagnostics of Combustion Gas Turbines and Centrifugal Compressors." Presented at the ASME Joint Power Gen. Conference (JPGC). Sept 1983. Publication No. 83-JPGC-PWR 28. 1-8**
- Boyce, M.P. "Aerothermodynamic Gas Path Analysis for Health Diagnostics of Combustion Gas Turbines." Presented at the 36th Meeting on Detection, Diagnosis and Prognosis, Mechanical Failures Prevention Group. Scottsdale, AZ. Dec 1982.**
- Boyce, M.P. and Meher-Homji, C.B. "Aerothermal-Mechanical Health Monitoring and Diagnostics of Turbo-Compressor Sets." Proc. of the 11th TurboMachinery Symposium. Houston, TX. 14-16 Dec. 1982. 75-94.**

- Boyce, M.P. "On-Line Monitoring and Diagnostics of Power Plants." Proc. of the EPRI Workshop on Incipient Failure Detection, 1982.**
- Boyce, M.P. "The Design and Development of an External Fired Steam Injected Gas Turbine." Proc. of the Industrial Energy Conservation Technology Conference. March 1981.**
- Boyce, M.P. "Mechanical and Aerothermal Diagnostics of TurboMachinery." Proc. of the 32nd Mechanical Failures Prevention Group. October 1980.**
- Boyce, M.P., Vyas, Y.K. and Trevillion, W.L. "The External Combustion Steam Injection Gas Turbine for Cogeneration." Proc. of the 13th Intersociety Energy Conversion Engineering Conference. Vol. 1 SAE P-75. San Diego, CA. 20-25 Aug. 1978. Paper No. SAE 789534. 860-865.**
- Boyce, M.P. "How to Achieve On-Line Availability of Centrifugal Compressors." Chemical Engineering. June 1978.**
- Boyce, M.P., Trevillion, W.L. and Hoehing, W.W. "Vaporized Fuel Oil...A New Gas Turbine Fuel." Diesel and Gas Turbine Progress. Mar 1978.**
- Boyce, M.P., Trevillion, W.L. and Wohlschlegel, D. "A Viscous Flow Model for TurboMachinery." Proc. of the 1st International Conference on Centrifugal Compressor Technology. The Department of Science and Technology, Government of India, New Delhi. 20-23 Feb. 1978. A6-25.**
- Boyce, M.P. "Dynamic Simulation of High Speed Rotating Machinery." Presented at the ASME Energy Technology Conference, September, 1977.**
- Boyce, M.P. and Nishida, A. "Investigation of Flow in Centrifugal Impeller with Tandem Inducer." Prod. Of the Tokyo Joint Gas Turbine Congress (sponsored by ASME, JSME and GTSJ). Tokyo, Japan. 22-27 May 1977. 353-62.**
- Boyce, M.P. "Secondary Flows in Axial Flow Compressors with Treated Blades." Proc. of the 49th Meeting of the AGARD Propulsion and Energetics Panel. Koninklijk Instutuut van Ingenierus. The Hague, The Netherlands. 28-30 March 1977. 5-1-13.**
- Boyce, M.P. "The Role of a Spectrum Analyzer in the Performance and Maintenance Monitoring of High Speed TurboMachinery." Presented at the Vibration Institute Seminar on Machinery Preventive Maintenance and Fault Diagnosis. Houston, TX. Jan.-Feb. 1977.**
- Boyce, M.P. "Spectrum Analysis-A Diagnostic Tool for High Speed Rotating Machinery." Presented at the 92nd Meeting of the Acoustical Society of America. San Diego, CA, 14-19 Nov. 1976.**
- Boyce, M.P., Trevillion, W.L. and Brown, M.L. "Advanced Research Programs in TurboMachinery." Proc. of the 5th TurboMachinery Symposium. College Station, TX. 12-14 Oct. 1976. 31-44.**

- Boyce, M.P., Bayley, R.D., Vankayalapati, S. and Vijayvardhan, E. "Field Testing of Compressors." Proc. of the 5th TurboMachinery Symposium. College Station, TX. 12-14 Oct. 1976. 149-59.**
- Boyce, M.P. "Monitoring of TurboMachinery." Technical Bulletin. Texas Engineering Experimental Station, Texas A&M University. College Station, TX. Oct. 1976.**
- Boyce, M.P. and Brown, M.L. "Liquid Fuel Applications in Gas Turbines." Presented at the 1st Simposium Venezolano de Turbines de Gas. Caracas, Venezuela. 26-29 April 1976.**
- Boyce, M.P. and Vijayvardhan, E. "Trends in TurboMachinery Research." Presented at the Short Term Course on Gas Turbine Engineering. Indian Institute of Technology. Madras, India. Dec. 1975.**
- Boyce, M.P. "Spectrum Analysis for TurboMachinery." Presented at the 2nd Annual Rerating Machinery Engineers' Senior Orbits Symposium. South Lake Tahoe, NV. June 1975.**
- Boyce, M.P. and Hanawa, D.A. "Parametric Study of a Gas Turbine." Presented at the Gas Turbine Conference. Houston, TX. 26 March 1975. 19. ASME Paper No. 75-GT-46.**
- Boyce, M.P. and Hanawa, D.A. "Development of Techniques for Monitoring TurboMachinery." Presented at the Gas Turbine Operations and Maintenance Symposium. Edmonton, Alberta, Canada. Oct. 1974.**
- Boyce, M.P. and Chen, Mow-Shung. "Optimization of Various Gas Turbine Cycles." Proc. of the 3rd TurboMachinery Symposium. College Station, TX. 15-17 Oct. 1974. 91-100.**
- Boyce, M.P. "Aerodynamic Characteristics of the Flow in the Clearance between the Impeller and the Casing." Presented at the IV USSR's National Scientific Conference on Compressors. Cyma, Russia. Sept. 1974.**
- Boyce, M.P. "Engineering Education in Turbomachinery." Presented at the ASME Gas Turbine Conference and Products Show. Zurich, Switzerland. March 30-April 4, 1974. ASME Paper No. 74-GT-86.**
- Boyce, M.P., Schiller, R.N. and Desai, A.R. "Study of Casing Treatment Effects in Axial Flow Compressors." Presented at the ASME Gas Turbine Conference and Products Show. Zurich, Switzerland. March 30-April 4, 1974. ASME Paper No. 74-GT-89.**
- Boyce, M.P. "Total Energy for Texas A&M." Gas Turbine International. Sept.-Oct. 1973.**
- Boyce, M.P. and Desai, A.R. "Clearance Loss in a Centrifugal Impeller." Presented at the Intersociety Energy Conversion Conference. Pittsburgh, PA. August 1973.**
- Boyce, M.P. "Exhaust Gas Pollution Control at the Laredo, Texas Border Inspection Station." Presented at the ASME Symposium of Flow Studies in Air and Water Pollution. Atlanta, GA. June 1973.**

- Boyce, M.P. and Desai, A.R. "A Theoretical Analysis of Non-Isentropic Flow of a Compressible Viscous Gas in a Narrow Passage." Presented at the International Lubrication Conference. New York, NY. Oct. 1972.**
- Boyce, M.P. "New Development in compressor Aerodynamics." Prod. Of the 1st TurboMachinery Symposium. College Station, TX. 24-26 Oct. 1972. 79-89.**
- Boyce, M.P. and Bale, Y.S. "Diffusion Loss in a Mixed Flow Impeller." Presented at the 7th Intersociety Energy Conversion Engineering Conference. San Diego, CA. Sept. 1972.**
- Boyce, M.P. "Air Pollution Control of the Laredo Customs Station." Government Services Administration. Texas A&M University. College Station, TX. Sept. 1972.**
- Boyce, M.P. and Bale, Y.S. "Feasibility Study of a Radial Inflow Compressor." Presented at the ASME International Gas Turbine and Fluids Engineering Conference. San Francisco, CA. 26-30 March 1972. ASME Paper No. 72-GT-52.**
- Boyce, M.P. and Neely, P.F. "Decay of Swirl in Turbulent Two Phase Flow." Presented at the 8th Southeastern Seminar on Thermal Sciences. Nashville, TN.**
- Boyce, M.P. and Bale, Y.S. "A New Method for the Calculation of Blade Loadings in a Radial Flow Compressor." Presented at the ASME Gas Turbine Conference and Products Show. Houston, TX. March 28-April 1, 1971. ASME Paper No. 71-GT-60.**
- Boyce, M.P. "The Utilization of Internal Combustion Exhaust Gases for Air Conditioning." Proc. of the 1971 Intersociety Energy Conversion and Engineering Conference. Boston, Mass. 3-5 Aug. 1971. Paper No. 719162. 1240-48.**
- Boyce, M.P. and Blick, E.F. "Skin Friction Drag and Velocity Profile Measurement Techniques in Two-Phase Flow." Presented at the ASME Fluids Engineering Conference. Pittsburgh, PA. 9-12 May 1971. ASME Paper No. 71-FE-32.**
- Boyce, M.P. and Bale, Y.S. "A New Method for the Calculation of Blade Loadings in Radial Flow Compressors." Presented at the 16th International Gas Turbine Conference. Houston, TX. March 1971. ASME Paper No. 71-GT-60.**
- Boyce, M.P. "Design of Compressor Blades Suitable for Transonic Axial Flow Compressors." Presented at the International Gas Turbine Conference. Houston, TX.**
- Boyce, M.P. "A Practical Three-Dimensional Flow Visualization Approach to the Complex Flow Characteristics in a Centrifugal Impeller." Presented at the ASME International Gas Turbine Conference. Zurich, Switzerland. ASME Paper No. 66-GT-83.**

Boyce, M.P. and Blick, E.F. "Fluid Flow Phenomena in Dusty Air." Presented at the ASME Winter Annual Meeting. Los Angeles, CA. 16-20 Nov. 1969. ASME Paper No. 69-WA/FE-24.

Boyce, M.P. "Design of Compressor Blades Suitable for Transonic Axial-Flow Compressors." Presented at the ASME Gas Turbine and Conference Show. Houston, TX. 5-9 March 1967. ASME Paper No. 67-GT-47.

Boyce, M.P. "Visualization of Three-Dimensional Flow in a Centrifugal Impeller." Thesis, State University of New York. Buffalo, NY. 1964.

REPORTS

Confidential Report for Chrysler- Daimler and TACOM on the Diesel and Gas Turbine Options for the Army Tank—December, 2000.

Combined Cycle Power Plant based on the ALSTOM GT-24 for Ever Power Corporation in Taiwan. Plant— November, 2000.

Confidential Report to the Director Environmental Affairs, on the Environmental Impact of the Continental Fleet on Emissions and Noise at their Hubs and at various worldwide locations – August, 2000.

Assessment of Micro-Turbines for the Malaysian Power System – Tenaga Nasional (Malaysian Power Company) – May, 2000

Techno-Economic Study on Re-Optimization of the Combined Cycle Plant at Connaught Bridge Power Station for Tenaga Nasional (Malaysian Power Company) – April, 2000

Reutilization Study of Distillate Tanks and Propose Option for Optimization of Existing Open Cycle Gas Turbines at Serdang Power Station for Tenaga Nasional (Malaysian Power Company) – January, 2000

Engine Noise Parameters for Aircrafts---July 1999, Continental Airlines, Houston Texas.

Engine Emissions for the Continental Airlines Fleet---July 1999, Continental Airlines, Houston Texas

Combined Cycle Power Plant Performance Analysis---February 1999, China Light and Power, Hong Kong, China

Operational Report on the Solar -Sulzer Gas Turbine and Axial Flow Compressor Train, January 1999, Enterprise Products Corporation, Houston Texas.

Analysis of Solar Turbine Failures for Corrosion Engineering UK, and Det Norske Veritas, Norway November 1998

Combined Cycle Power Plant Performance Analysis---August 1998, PowerGen, Connah's Quay, Wales, UK

Failure of Siemens Combined Cycle Power Plant at Kansa Power, Zurich Insurance February 1998

Testing of Solar Mars and Sulzer Compressor Train for Enterprise Products Company MTBE Plant January 1998

Evaluation of Power Plant Fuel Systems for Heavy Fuels Black and Veatch, and Blackwell and Sanders, December 1997

Report on Failure of Siemens V63.4 Gas Turbine with low NO_x Combustors, CRSS_Sirine, and Burns and Roe, September 1997

Combined Cycle Power Plant for Ittehad Chemicals, Pakistan, November 1997

Evaluation of Combined Cycle Power Plant for Public Power Greece September 1996

Heavy fuels for Gas Turbines for SCECO Saudi Arabia November 1995

Condition Monitoring System for a Combined Cycle Power Plant GE Frame 7A for EPRI and Fluor Daniel June 1995

Condition Monitoring System for a Windbox Steam Power Plant for EPON and KEMA December 1994

Condition Monitoring Systems for Low NO_x Turbines for PEPCO, EPRI and Fluor Daniel March 1993

Report on Phase 1 Investigation on Failure of WFEC Unit "C" Dr-61 Gas Turbine, Fetterly and Gordon, April 1992.

Inspection, Repair and Installation of Power Turbine for Gas Turbine Unit "A", Wichita Falls Energy Company, February 1992.

Inspection, Repair and Installation and Startup of Gas Turbine Unit "A", Vol. I, Wichita Falls Energy Company, September 1991.

Installation and Startup Sequence of Events for the Gas Turbine Unit "C" for WFEC, Wichita Falls Energy Company, July 1991.

Investigation into Blade Failures on Sidor Coppus Murray Steam Turbines, Nos. 273-JTI/JT2 (Hyl 11 Plant), C.V.G. Sidor, December 1991.

A Review of Maintenance Practices and Strategy at InterAlumina, CVG InterAlumina Maintenance Group, July 1990.

Preliminary Analysis on Blade Failure of BBC Gas Turbine (Type 11B) Unit 10 at Planta Urdaneta, Enelven, March 1990.

Failure Analysis and Evaluation of KWV Unit I Gas Turbine, Kot Addu Plant, Water and Power Development Authority (WAPDA), September 30, 1989.

Product Quality Review and Witness Test on DJ300G Gas Turbine Generator Set, Northland Power, Toronto, Ontario, September 29, 1989.

Critical Speeds Analysis and Dry Diaphragm Coupling Selection for a 4840 HP Turbomachinery Train, Sun Oil Refineries, Tulsa, OK, July 18, 1989.

Vibration Survey Report on Beloit Compressors 1 & 2, Occidental Chemical, Tacoma, Washington, May 1989.

Design Audit of Plant Re-evaluation of Steam Injection System, Wichita Falls Energy Investments, Wichita Falls, Texas, September 1988.

Report on East CW352 Startup, Petro-Canada Resources, Empress Gas Plant, Burstall, Saskatchewan, August 1988.

Site Investigation of Vibration Problems K930, K4201, K4015A, Qatar General Petroleum Company, Dhoa, Qatar, August 1988.

Performance Tests Mogran Creek Unit GT-2, Texas Utilities Electric Company, June 1988.

Audit of Wichita Falls Energy Company, Wichita Falls Energy Investment Company, Wichita Falls, Texas, March 1988.

Performance Tests Monahans SES Unit GT101, Texas Utilities Electric Company, February 1988.

Engineering Audit Report Cogeneration Facilities, Anschutz Ranch East and Wassan Cogeneration, Amoco Production Company, February 1988.

Steam Turbine Failure Investigation, Inland Container Corporation, Rome, Georgia, January 1988.

Engineering Report No. 34080 on the Failure of Two Impellers made by Atlas Copco COMPTEC, M.W. Kellog, Houston, Texas, August 1987.

An Overview of Condition Monitoring Systems with Emphasis on Brae "B" Platform, Marathon Oil Company.

Startup Vibration Analysis and Documentation Train No. 8101, Tenneco Refiner, Chalmette, Louisiana, June 1985.

Control System Recommendations for L.G.T. Plant, Rohm and Haas Texas, January 1984.

Meneven Maintenance Manual, S.A. Meneven, Caracas, Venezuela, November 1983.

Analysis and Re-Design of Clark 1M6 Compressor, I.W. Hickham Industries, July 1983.

The External Combustion Steam Injected Gas Turbine, U.S. Department of Energy, July 1982.

A Description and Evaluation of Alternate Power Generating Shortages for CADAPE in the Year 2000, Caracas, Venezuela, May 1982.

Vibration Analysis of Turbocompressor Trains #1.2, 3.4, Michigan Wisconsin Pipeline, Patterson, Louisiana, March 1982.

Re-build and Mechanical Performance Test, Hooker Chemical Company, July 1981.

Re-design of an Expander Train, Dow Chemical, July 1981.

Report to Rolls Royce on compressor Selection, April 1981.

Field Test and Evaluation of Axial Flow compressor #3 Acid Plant, Kaiser Aluminum Corporation, Savannah, Georgia, October 1980.

Combined Cycle Power Generation Systems, Enelven Corporation, Venezuela, June 1980.

Test of an External Combustion Gas Turbine with Steam Injection, Report to the Department of Energy, 1979.

Development of Incipient Surge Detection Device. A lecture sponsored by the Gas Turbine Laboratories, Texas A&M University, June 1978.

Development of Incipient Surge Detection Devices, Consortium Report, June 1978.

Dynamic Simulation of High Speed Compressor Train, Report to Monsanto Corporation, August 1977.

Multiple Fuels for Gas Turbines, University of Caracas, Venezuela, April 1976.

Study and Research in the U.S.A., Victoria Jubilee Technical Institute, Bombay, India, January 1976.

Flow Phenomenon in Centrifugal Compressors (Vol. I-Surge Prediction and Monitoring and Vol. II-Blade Loading of a Centrifugal Impeller) Report for limited circulation to sponsoring Corporations, Texas A&M University, January 1976.

Research of TurboMachinery in the U.S.A., Winter School for Gas Turbine Engineering, Indian Institute of Technology, Madras, India, December 1975

Testing and Monitoring Compressor Trains, Petromin Corporation, Jeddah, Saudi Arabia, November 1975.

Design Considerations in Axial Flow Compressors, Mitsui Corporation, Tokyo, Japan, September 1975.

The Role of the Spectrum Analyzer in a Total Analysis System for High-Speed Rotating Machinery, Engineering Foundation Conference, New England College, Hoencher, New Hampshire, July 1975.

Vibration Research in TurboMachinery, Senior Orbit Engineer's Club, Lake Tahoe, Nevada, June 1975.

Energy Research in the U.S.A. and U.S.S.R. in the Foreseeable Future, National Society of Professional Engineers, Baytown, Texas February, 1975.

Future Trends in Gas Turbine Research, Electric power Research Institute Workshop, Washington, D.C., February 1975.

Research and Education in the U.S.S.R., Society of Automotive Engineers, Texas A&M, University Student Chapter, College Station, Texas, February 1975.

Performance and Aerodynamics of Centrifugal Compressors, Machinery Reliability School for Union Carbide Employees, New Orleans, Louisiana.

Aerodynamics and Axial and Radial Flow Compressors, Indian Institute Technology, Bombay, India, January, 1974.

Graduate Education on the United States, Indian Institute of Technology, Bombay, India, January, 1974.

Recent Developments in the Area of Aerodynamic Blade Loadings in Centrifugal and Axial Flow Compressors, University of Texas, Austin, Texas, September, 1973.

Air Pollution Control Manual Report for National Cottonseed Association, Texas A&M University, College Station, Texas, July, 1973.

Cottonseed Air Pollution, National Oil Mill Symposium sponsored by National Cottonseed Association, April, 1973.

**Air Pollution and the Automobile, Society of Automotive Engineers, San Antonio, TX,
March 1973**

Air Pollution Control of the Laredo Customs Stations, REPORT for Government Services Administration, Texas A&M University, September, 1972.

New Developments in Automotive Engine to Curb Pollution, sponsored by Workshop on Air Pollution Effects on Service and the Environmental Protection Agency, June, 1972.

**Air Pollution Control, American Society of Meteorologists, Texas A&M University Chapter,
January, 1972.**

Aerodynamics of TurboMachinery, University of Hawaii, September, 1971.

Supersonic Flow in Axial Compressors, Ishikawajima-Harima Heavy Industries Company, Ltd., Tokyo, Japan, October, 1971.

Development and Control of Drag, Texas A&M University, September, 1970.

Vaporized Fuel Oil, Report to Allied Chemical, February, 1977.

Report on Test Conducted at Esso Pakistan Fertilizer Plant, Daharki, Pakistan, January, 1977.

Viscous Drag Reduction, University of Arizona, February, 1969.

LECTURES AND SHORT COURSES

“Condition Monitoring for Advanced Gas Turbines” Invited Lecturer, Department of Energy Sponsored Conference on Advancing The Gas Turbine Power Industry, December 4-6, 2000. Washington, D.C.

“Advanced Control System Technology”, Invited Lecturer by the Department of Energy, at their sponsored Workshop “The Aerospace/Power Industry Control System Technology Transfer” November 16, 2000, Orlando, Florida.

“New Techniques in Condition Monitoring” Department of Energy Sponsored Workshop, November 13, 2000 – Orlando, Florida.

TurboMachinery for the Energy Industry- Sole Instructor for a Two Day Short Course- November 2000 – Sponsored by PowerGen, Orlando Florida

TurboMachinery for the Energy Industry- Sole Instructor for the Five Day Short Course-October-November 2000 – Sponsored by the Institute of Diesel and Gas Turbine Engineers, - London U. K.

International Power and Petrochem Consortium- Chairman and Invited Lecturer October 2000 at DERA, Farnborough, U.K.

Gas Turbine Short Course—One Day, Sole Instructor, Texas A&M University sponsored course at the TurboMachinery Symposium September, 2000, Houston, Texas

“Condition Monitoring of Large Combined Cycle Power Plants” Invited Lecturer, Department of Energy, Power Producers and Petrochemical Users of Advanced Gas Turbines- Workshop, June 6-7, 2000, Washington D.C.

TurboMachinery for the Energy Industry- Sole Instructor for the Five Day Short Course-May 2000 - Sponsored by the Institute of Diesel and Gas Turbine Engineers,- London U. K.

TurboMachinery for the New Millennium- Chairman and Invited Lecturer May 2000 at DERA, Farnborough, U.K.

TurboMachinery for the Energy Industry- Sole Instructor for the Five Day Short Course-December 1999-Singapore.

Combined Cycle Power Plants-- Sole Instructor for the Five Day, Short Course September 1999-London, U.K.

TurboMachinery for the New Millennium –Key Note Speaker TurboMachinery Symposium September 1999

New Developments in Gas Turbines- Invited Lecturer at the Naval Post Graduate School Monterey CA.-July 1999.

Optimizing Condition Monitoring, and Modeling of Plant Aerothermodynamics for Improved Plant Availability, Maintainability and Efficiency Short Course - March, 1999.

Combined Cycle Power Plant Operation, Berlin, Germany, December 1996.

Gas Turbines in Utility Service, Berlin, Germany, January 1996.

Gas Turbines and Centrifugal Compressors Operation and Maintenance, Warrick, U.K., May 1996.

Combined Cycle Power Plant and High Technology Gas Turbines, For National Power, November, 1995. Swindon U.K.

Combined Cycle Power Plants, Arnhem, The Netherlands, September 1995.

Gas Turbines and Centrifugal Compressor Technology, Dubai, April 1995.

Gas Turbines for Utilities – Arnhem, The Netherlands, September 1995.

Gas Turbines and Compressors for the North Sea, Oslo, Norway, Short Course presented annually from 1991-1994.

Gas Turbine and Centrifugal Compressor, Margarita Island, Venezuela, April 15-18, 1991.

Gas Turbines and Centrifugal Compressors, United Kingdom, presented annually 1990-1996.

Operation and Maintenance of Gas Turbines. Cranfield School of Mechanical Engineering, January 8-12, 1990, Cranfield, England.

Design Operation and Maintenance of TurboMachinery, Aberdeen, Scotland, May, 1988.

Design, Operation and Maintenance of TurboMachinery Short Course, Dubai, U.A.E., February, 1988.

Gas Turbine-Centrifugal Compressor Short Course, Norway, November, 1987.

General TurboMachinery Course, London, England, June, 1987.

New Developments in On-line Diagnostics for TurboMachinery. Lecture at Cranfield University, Cranfield, England, 1987.

Short Course on TurboMachinery, Anchorage, Alaska, March 1987.

Operation and Maintenance of Gas Turbines and Centrifugal Compressors, Boyce Engineering/Nico International, DUBAI, U.A.E., January, 1987.

Gas Turbine and Centrifugal Compressor Short Course, Houston, Texas, November, 1986.

Gas Turbine and Centrifugal Compressors, Houston, Texas, May, 1986.

Gas Turbine and Centrifugal Compressor Course, London, England, May, 1986.

Rotating Machinery Short Course. Short Course, Anchorage, Alaska, February, 1986.

New Developments in TurboMachinery Design, Lecture at University of Houston, 1986.

Gas Turbine and Centrifugal Compressor Short Course, Houston, Texas, November, 1985.

Short Course on Centrifugal Compressors, London, England, October, 1985.

Gas Turbine and Centrifugal Compressor Short Course, Houston, Texas, - October 1984.

General TurboMachinery Short Course, Houston, Texas, April, 1984.

Maintenance and Reliability Improvement Short Course, Houston, Texas, April, 1984.

Gas Turbine Short Course, S.A. Meneven, Caracas, Venezuela, October, 1981.

TurboMachinery Short Course, Boyce Engineering International, Inc. facilities, Houston, Texas, September, 1981.

Maintenance of Rotating Machinery Short Course. Boyce Engineering International, Inc. facilities, Houston, Texas, July, 1981.

Short Course on Gas Turbines and Centrifugal Compressors, Phillips 66, Stavanger, Norway, March 1981.

Gas Turbines Short Course, S.A. Meneven, Caracas, Venezuela, October, 1980.

Surge Characteristics in Centrifugal Compressors sponsored by ASME Houston, Chapter, September, 1978.

Spectrum Analysis for Surge Control. A Lecture sponsored by the Engineering Foundation at New England College, Hoenecker, New Hampshire, July, 1978.

Spectrum Analysis, A Look in TurboMachinery Maintenance. Invited Lecturer, Nicolet Scientific, June, 1977.

Cavitation Problems and Pump Sizing. Invited Lecturer at Pump Symposium sponsored by Chemical Engineering, January, 1977.