Turbomachinery Advisory Committee

Dara W. Childs has been Director of the Turbomachinery Laboratory since 1984 and holds the Leland T. Jordan Chair in Mechanical Engineering at Texas A&M University. He received B.S. and M.S. degrees (Civil Engineering, 1961, 1962) from Oklahoma State University, and a Ph.D. (Engineering Mechanics, 1968) from the University of Texas. He was named an ASME Fellow in 1990, and received ASME's Henry R. Worthington Medal in 1991. Dr. Childs' expertise is in dynamics and vibrations, with an emphasis in rotordynamics. Current research includes: testing of high-pressure honeycomb and hole-pattern gas damper seals; measuring friction factors for roughened surfaces using a high-pressure flat plate test rig; measurement of transient behavior of radial hydrostatic thrust bearings; measuring the performance characteristics of hydrostatic thrust bearings; improving the prediction capability of labyrinth seal codes.

Dr. Childs has authored many publications related to rotordynamics and vibrations, and the books, *Turbomachinery Rotordynamics*, and *Dynamics in Engineering Practice*.

Kazim Akhtar is the Director for Mechanical Engineering of CB&I Lummus, in Houston, Texas. His department is involved in the specification, design, selection, shop test acceptance, and startup coordination of rotating and static (heat transfer, vessels, and material handling) equipment for major refinery, petrochemical, and oil and gas projects.

Mr. Akhtar received a B.S. degree (Mechanical Engineering) from Texas A&M University and an M.S. degree (Industrial Engineering, Management) from the University of Houston. He is an active member of API, AICHE, ASME, a registered Professional Engineer in the State of Texas, and a member of the Turbomachinery Symposium Advisory Committee.

Bruce Bayless is with Valero Energy Corporation, in Houston, Texas.

Kenneth O. (Ken) Beckman is Chief Engineer of the Power Transmission Division of Lufkin Industries, Inc., in Lufkin, Texas. Since college graduation he has been in gear engineering with Lufkin Industries. He previously served as a Design Engineer in high-speed gearing, and in 1985 he was promoted to Chief Engineer responsible for the engineering on all gears including low-speed through high-speed, marine, and repair. Mr. Beckman has spent a considerable portion of his time working with users and service departments to solve gearing problems. The Quality Assurance Department and the Test Stand area were added to his responsibilities in 1998.

Mr. Beckman received a B.S. degree (Mechanical Engineering, 1972) from Montana State University. He is an active member of AGMA and API. He is currently on the Advisory Board for the University of Louisiana at Lafayette.

Gampa I. Bhat is Chief Machinery Engineer for ExxonMobil Chemical Company, in Baytown, Texas. As Lead Specialist, he acts as the focal point for the ExxonMobil Chemical Worldwide Machinery Network and is involved with the development of machinery strategies for new and upgrade projects. He is also involved in the selection, operation, maintenance, and troubleshooting of machinery systems.

Mr. Bhat received his B.S. degree (Mechanical Engineering) from Karnataka University in India, and an M.S. degree from West Virginia College of Graduate Studies. He is a member of ASME.

Meherwan P. Boyce is Chairman of The Boyce Consultancy Group, LLC, in Houston, Texas. He has 45+ years of experience in the turbomachinery field, with 35 years in the design of compressors and turbines. His 15 years in academia include being Professor of Mechanical Engineering at Texas A&M University, and Founder of the Turbomachinery Laboratories and the Turbomachinery Symposium. Dr. Boyce has authored more than 130 technical publications and several books, including *Gas Turbine Engineering Handbook, Cogeneration & Combined Cycle Power Plants*, and *Centrifugal Compressors, A Basic Guide*. He has taught over 150 short courses globally attended by over 4500 students representing 400 companies, and is a Consultant to the aerospace, petrochemical, and utility industries.

Dr. Boyce received a B.S. and M.S. degree (Mechanical Engineering) from the South Dakota School of Mines and Technology and the State University of New York, respectively, and a Ph.D. degree (1969) from the University of Oklahoma.

Timothy J. (Tim) Christ is a Mechanical Engineering Associate at The Dow Chemical Company, in Freeport, Texas. In this role, he assists rotating equipment engineers in the Maintenance Technical Services group as well as Reliability and Maintenance Engineers in the various businesses regarding turbomachinery issues. Mr. Christ spent most of his career in the Critical Mechanical Equipment group. However, he recently acted as a Maintenance Representative on a large-scale grass-roots plant constructed in Freeport. He is presently a member of the Dow Global Turbomachinery Technology Resource Network (TRN), which is a network of turbomachinery subject matter experts from various global sites. He was coauthor of a paper for the Twenty-Sixth Turbomachinery Symposium and presented a Case Study at the Thirtieth Turbomachinery Symposium.

Mr. Christ has a B.S. degree (Mechanical Engineering) from Texas A&M University (1978).

Clifford P. (Cliff) Cook retired from ChevronTexaco and is President of CVC Engineering, in Houston, Texas. He provides turbomachinery consulting services to the process industries with 42 years' experience. He is a ChevronTexaco Fellow, Emeritus, and is Chairman Emeritus and past Vice Chairman of the API Subcommittee on Mechanical Equipment and member of its Steering Committee. He is Chairman of API RP 687 and API SOME Standard Paragraphs, and past Chairman of API 613 and 677. Mr. Cook is a member of API 617, 616, 614, and past member of API 610, 684 Tutorial. He has been a member of the Texas A&M Turbomachinery Symposium Advisory Committee since 1993.

Mr. Cook has a B.S. degree from the U.S. Merchant Marine Academy, Kings Point, and an M.S. degree (Mechanical Engineering) from Lehigh University.

Thomas R. (Tom) Davidson is Chief Mechanical Engineer, Global Operations Reliability Support for Linde, Inc., in Pasadena, Texas. His primary responsibility is developing and implementing equipment reliability improvement programs for both rotating and fixed equipment. Mr. Davidson is also responsible for assisting in machinery selection, overhauls, and developing and implementing design improvements to enhance equipment reliability and availability. He has more than 30 years of experience in the petrochemical and process gas industry, in the field of equipment reliability, maintenance management, and turnaround planning and scheduling.

Mr. Davidson received a B.S. degree (Mechanical Engineering, 1978) from the University of Houston. He is a member of ASME, NSPE, the Vibration Institute, and he serves on the Turbomachinery Symposium Advisory Committee. Mr. Davidson is also a registered Professional Engineer in the State of Texas.

Gary S. Davis is the Manager, Industrial Power Generation Group at The Elliott Group, in Jeannette, Pennsylvania. He has more than 30 years of experience working with rotating equipment. Previous roles include Project Engineer, Lead Project Engineer, Project Manager, Systems Application Engineer, Manager Air Separation, and Eastern Zone Sales Manager prior to entering into the Power Generation role in 2009. He is responsible for supporting the technical and commercial efforts in providing steam turbine-generator packages worldwide.

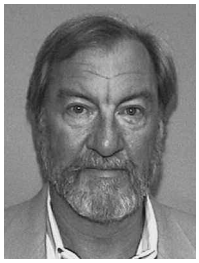
Mr. Davis has a B.S. degree (Mechanical Engineering, 1979) from Virginia Tech.

Francisco J. Gonzalez is Senior Director of Mechanical Reliability and Maintenance Optimization for Enterprise Products Co., in Houston, Texas. He currently operates machinery over 3.1 MM installed horsepower in natural gas and NGL processing plants. He has more than 20 years of experience in the operations and maintenance of rotating equipment, 14 years at Enterprise and six years with Amoco Chemical at Texas City. The Reliability Department at Enterprise is primarily responsible for providing technical support to operation and maintenance, which includes rotating equipment vibration monitoring, aerothermal performance monitoring, troubleshooting, overhaul, performance testing, and gas turbine and compressor optimization, as well as evaluating short-term and long-term reliability improvements for all rotating equipment. Mr. Gonzalez has coauthored several technical papers for the Turbomachinery Symposium and ASME Power Gen, as well as articles on improving reliability in various publications.

Mr. Gonzalez has a B.S. degree (Mechanical Engineering, 1990) from the University of Houston.

Satoshi Hata is a Group Manager within the Research and Development Group, Engineering and Design Division, at Mitsubishi Heavy Industries Compressor Corporation, in Hiroshima, Japan. He has 27 years of experience in R&D for nuclear uranium centrifuges, turbomolecular pumps, and heavy-duty gas turbines and steam turbines.

Mr. Hata has B.S., M.S., and Ph.D. degrees (Mechanical Engineering) from Kyusyu Institute of Technology.



Jeff Haught is a Facilities Engineering Advisor for Anadarko Petroleum Corporation, in The Woodlands, Texas. He currently is responsible for midstream gas plants and gathering systems as well as oversight of the company's large rotating equipment in various locations around the world. He began his career as a machinery engineer at the Arco refinery in Los Angeles, then moved to Prudhoe Bay, first with Arco and then with Conoco. After assignments with Conoco in S.E. Asia, the Gulf of Mexico, and Russia, Mr. Haught joined Anadarko in 1996 for major project work in Algeria. Since then, he has held positions in engineering and maintenance throughout the company.

Mr. Haught received his B.S. degree (Mechanical Engineering, 1979) from the University of California, Santa Barbara. He is a member of both ASME and PMI. He is a registered Professional Engineer in the States of Texas and California.

Lil Kassie is presently Rotating Equipment Advisor for BP refining. He is located at BP's Whiting, Indiana, refinery where he has worked for 24 years. He has held positions as Rotating Equipment Specialist, Superintendent of the Rotating Equipment and Reliability Engineering Group, and Senior Rotating Equipment Consultant. In his present position, Mr. Kassie is responsible for providing machinery expertise, sharing and implementing equipment practices, and development coaching for improving equipment reliability and plant availability throughout BP. Prior to his tenure at BP, Mr. Kassie worked as Rotating Equipment Superintendent for Energy Cooperative Inc. and as a Field Service Engineer for Ingersoll Rand. He has presented technical papers at various rotating equipment conferences including the Turbomachinery Symposium and Rotating Machinery Users Council.

Mr. Kassie holds B.S. and M.S. degrees (Mechanical Engineering) from the University of Wisconsin.

Rainer Kurz is Manager of Systems Analysis and Field Testing for Solar Turbines Incorporated, in San Diego, California. His organization is responsible for conducting application studies, gas compressor and gas turbine performance predictions, and site performance testing. He joined Solar Turbines Incorporated in 1993 and has authored more than 70 publications in the field of turbomachinery.

Dr. Kurz attended the University of the German Armed Forces, in Hamburg, where he received the degree of a Dipl.-Ing., and, in 1991, the degree of a Dr.-Ing. He was elected as an ASME Fellow in 2003 and is a member of the Turbomachinery Symposium Advisory Committee.

Mark J. Kuzdzal is the Manager of Core Technologies at Dresser-Rand Company, Olean Operations, in Olean, New York. He is responsible for overseeing rotordynamics, aerodynaimcs, materials, welding, solid mechanics, and acoustics disciplines. He has been with the company since 1988. Mr. Kuzdzal's areas of expertise are rotordynamics, bearing performance, field vibration issue resolution, and product/process development. He has coauthored many technical papers and holds two U.S. Patents.

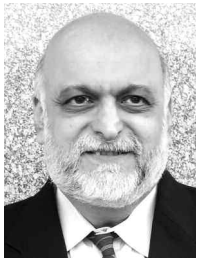
Mr. Kuzdzal has a B.S. degree (Mechanical Engineering, 1988) from the State University of New York at Buffalo.

Stephen R. (Steve) Locke is a Senior Consultant with E. I. du Pont de Nemours and Company, Inc., with 37 years of turbomachinery and rotating equipment experience. He is assigned to DuPont Engineering Technology Rotating Machinery Group, in Old Hickory, Tennessee. Since 1983, Mr. Locke has consulted on turbomachinery and process machinery for repairs, reliability improvements, retrofits, new equipment specification and startups, performance modeling, and more recently on machinery Process Safety Management. In his first 11 years in DuPont, he held plant assignments in the Petrochemicals Department providing technical assistance to operations and maintenance, including the startup of several large process compressors and other rotating and process equipment.

Mr. Locke received a B.S. degree (Mechanical Engineering, 1972) from Purdue University and is a member of ASME. He has presented several papers at the Turbomachinery Symposia, the University of Virginia ROMAC, and represents DuPont on Texas A&M's Turbomachinery Research Consortium.

Terryl Matthews is Senior Rotating Equipment Engineer with Shell Projects & Technology, in Houston, Texas, responsible for providing technical support for rotating equipment to Shell, Shell affiliated companies, and commercial customers worldwide. Since joining Shell in 2007, he has been involved in RCAs for refineries, chemical and LNG plants, high-pressure compression and pumping applications, wind energy, subsea equipment, and a technical focal point on various supplier alliances.

Mr. Matthews began his career with Dow Chemical in 1973 after graduating from the University of Houston with a B.S. degree (Mechanical Engineering). He worked for Dow Chemical for 30 years in rotating equipment. He then worked for Bechtel as a rotating equipment specialist on a refinery, coal gasification, and LNG project. Mr. Matthews has authored seven technical papers, is a member of ASME, a member of the EPC Rotating Machinery Subcommittee, and is a registered Professional Engineer in the State of Texas.



Cyrus B. Meher-Homji is an Engineering Fellow and Senior Principal Engineer at Bechtel Corporation, in Houston, Texas. He is assigned to the LNG Technology Group and LNG Product Development Center. Mr. Meher-Homji works on the development of new concepts relating to LNG turbomachinery and supports LNG projects. His 27 years of industry experience covers gas turbine and compressor application and design, engine development, and troubleshooting.

Mr. Meher-Homji has a B.S. degree (Mechanical Engineering) from Shivaji University, an M.E. degree from Texas A&M University, and an M.B.A. degree from the University of Houston. He is a registered Professional Engineer in the State of Texas, a Fellow of ASME, life member of AIAA, and is active on several committees of ASME's International Gas Turbine Institute. He has several publications in the area of turbomachinery engineering.

Marcelo Accorsi Miranda is a Senior Advisor with Petrobras E&P Business Unit of Rio de Janeiro, Brazil. He has been in the oil and gas business for 31 years. Mr. Miranda is responsible for the technical support, design, specification, selection, and acceptance tests of turbomachinery. His background includes comprehensive evaluation of turbomachinery systems, LCC analysis, and RAM analysis. He is a member of the Brazilian Maintenance Association (ABRAMAN) and a member of the Turbomachinery Symposium Advisory Committee.

Mr. Miranda received a B.S. degree (Mechanical Engineering) from Universidade Federal do Rio de Janeiro and an M.S. degree (Industrial Engineering) from Universidade Federal Fluminense. He has authored several technical papers on turbomachinery testing, low and high speed balancing, compressor selection, and LCC and RAM analysis.

Jeffrey Moore is a Program Manager at Southwest Research Institute, in San Antonio, Texas. His professional experience over the last 20 years includes engineering and management responsibilities related to centrifugal compressors and gas turbines at Solar Turbines Inc. in San Diego, California, Dresser-Rand in Olean, New York, and Southwest Research Institute in San Antonio, Texas. Dr. Moore's interests include advanced compression methods, rotordynamics, seals and bearings, computational fluid dynamics, finite element analysis, controls, and aerodynamics. He has authored more than 20 technical papers related to turbomachinery and has given numerous tutorials and lectures. He is currently the chair of the Oil and Gas Committee for IGTI Turbo Expo and a member of the Turbomachinery Advisory Committee.

Dr. Moore holds B.S., M.S., and Ph.D. degrees (Mechanical Engineering) from Texas A&M University.

Vinod Patel is a Chief Technical Advisor, Machinery Technology, for KBR, in Houston, Texas. In his assignment, he is responsible in the preparation and auditing of specifications, equipment evaluation, engineering coordination, and testing and installation startup of rotating and special equipment. He has worked in various applications of rotating machinery in the petrochemical and refinery processes including ammonia, LNG, olefins, cat-cracking, and hydrotreating for domestic and international projects.

Mr. Patel received B.S. and M.S. degrees (Mechanical and Metallurgical Engineering) from Maharaja Sarajirao University and Youngstown University, respectively. He is a registered Professional Engineer in the State of Texas.

Douglas (Doug) Petrie is an Account Executive for GE Oil and Gas, based in Houston, Texas. He joined GE in 2002, and, prior to that, he worked for Elliott Turbomachinery and Dresser Industries. Mr. Petrie has more than 30 years of experience in the rotating equipment industry where he has held various jobs in both operations and sales.

Mr. Petrie has a B.S. degree (Mechanical and Industrial Engineering) from Clarkson University.

Bernard Quoix is the Head of Total E&P Rotating Machinery Department, in Pau, France, and has held this position since November 2003. He began his career in 1979 within Total Operations in the North Sea, then from 1986 to 1989 became Head of Engineering of Turbomeca Industrial Division, a small and medium size gas turbine manufacturer. Mr. Quoix then went to Renault as Assistant Manager of the testing facilities for prototype and production engines before joining Elf Aquitaine and, eventually, Total, where he was mainly involved in all aspects of turbomachines, including conceptual studies and projects for new oil and gas field development, bringing his expertise to all Total Affiliated Companies worldwide.

Mr. Quoix graduated from Ecole Nationale Supérieure d'Electricité et de Mécanique (1978), in Nancy, and then completed his engineering education with one additional year at Ecole Nationale du Pétrole et des Moteurs, in Paris, specializing in internal combustion engines.

Peter C. Rasmussen retired from ExxonMobil after 31 years, holding various positions in upstream organizations working machinery solutions and reliability issues. He lead the upstream machinery for ExxonMobil as the Chief Machinery Engineer.

Mr. Rasmussen received his B.S. degree (Ocean Engineering, 1974) from Florida Atlantic University, Boca Raton.

Terry L. Roehm is a Corporate Reliability Engineer for Marathon Oil, in Houston, Texas. He specializes in rotating equipment and his responsibilities focus on improvement of the reliability of rotating equipment for the upstream of Marathon. In addition, Mr. Roehm is involved with the specification, selection, procurement, installation, startups, troubleshooting, and turnaround planning for the rotating equipment. He has had various positions in maintenance and engineering with the downstream portions of Marathon Petroleum and Ashland Oil for more than 30 years.

Mr. Roehm has a B.S. degree (Mechanical Engineering) from Purdue University. He is a registered Professional Engineer in the State of Kentucky, past Chairman of the API Subcommittee on Mechanical Equipment, active on several API task forces, and a member of ASME.

Charles R. (Charlie) Rutan retired as Senior Engineering Advisor, Specialty Engineering, with LyondellBasell, in Alvin, Texas. His expertise is in the field of rotating equipment, hot tapping/plugging, and special problem resolution. He has three patents and has consulted on turbomachinery, hot tapping, and plugging problems all over the world in chemical, petrochemical, power generation, and polymer facilities.

Mr. Rutan received his B.S. degree (Mechanical Engineering, 1973) from Texas Tech University. He is a member of the Advisory Committee of the Turbomachinery Symposium, and has published and/or presented many articles.

Mark R. Sandberg is a Consulting Machinery Engineer and Technical Team Leader with Chevron Energy Technology Company, in Houston, Texas. His duties involve providing technical assistance and services associated with the selection, design, specification, procurement, and testing of new rotating equipment along with failure analysis and troubleshooting problems with existing equipment, primarily in upstream oil and gas production and LNG processing. Mr. Sandberg has more than 30 years of varied experience in the process industries and has been involved with the design, manufacture, testing, and installation of numerous gas turbine driven centrifugal compressor trains in different services worldwide. Prior to joining Chevron, he was employed by ARCO, Petro-Marine Engineering, and The Dow Chemical Company.

Mr. Sandberg has B.S. and M.S. degrees (Mechanical Engineering) from the University of Illinois at Urbana-Champaign. He is a registered Professional Engineer in the State of Texas, a Fellow Member of ASME, and a member of AIAA.

Donald R. Smith is a Senior Staff Engineer at Engineering Dynamics Inc. (EDI), in San Antonio, Texas. For the past 40 years, he has been active in the field engineering services, specializing in the analysis of vibration, pulsation, and noise problems with rotating and reciprocating equipment. He has authored and presented several technical papers. Prior to joining EDI, he worked at Southwest Research Institute for 15 years as a Senior Research Scientist, where he was also involved in troubleshooting and failure analysis of piping and machinery.

Mr. Smith received his B.S. degree (Physics, 1969) from Trinity University. He is a member of ASME and the Vibration Institute.

Stanley Stevenson is a Project Manager for Siemens Demag Delaval Turbomachinery, Inc., located in Hamilton, New Jersey. He has been with the company for more than 29 years and has been involved in the design, manufacture, repair, upgrade, and testing of rotating equipment for the chemical, oil and gas, utility, and power generation markets. Mr. Stevenson has been responsible for the design and component selection for rotating equipment trains and auxiliary support systems, technical and commercial interface with customers, field service support during equipment installation, startup, and resolution of field operational problems.

Mr. Stevenson has received both B.S. and M.S. degrees (Mechanical Engineering, 1980, 1983) from Drexel University. He is a member of ASME and is a registered Professional Engineer in the State of Pennsylvania. Mr. Stevenson is a member of PMI, where he is a certified PMP.

Hans P. Weyermann is a Principal Rotating Equipment Engineer in the Drilling and Production Technology department of ConocoPhillips Upstream Company, in Houston, Texas. In his current position, he supports all aspects of turbomachinery for existing business units and grass roots capital projects. He is also responsible for overseeing corporate rotating machinery technology development initiatives within the ConocoPhillips Upstream Company.

Mr. Weyermann received a B.S. degree (Mechanical Engineering, 1978) from the College of Engineering in Brugg-Windisch, Switzerland. He joined Sulzer Escher-Wyss Turbomachinery in Zurich as an Application/Design Engineer in the turbocompressor department. Prior to joining the ConocoPhillips Company, he was the Supervisor of Rotating Equipment at Stone and Webster Engineering in Houston. Mr. Weyermann is a member of ASME, the API SOME, and serves on several API Task Forces.

John K. Whalen is Engineering Manager and President of TCE/Turbo Components and Engineering, Inc., in Houston, Texas. He spent seven years at Turbodyne Steam Turbines (Dresser-Rand) as a Product Engineer in the Large Turbine Engineering Department and as an Analytical Engineer in the Rotordynamics Group of the Advanced Engineering and Development Department. In 1988, Mr. Whalen accepted a position with Centritech, as the Assistant Chief Engineer, and in 1989, he was promoted to Manager of Engineering. In 1991, he left Centritech to help start TCE. At TCE, he is responsible for the engineering department and engineering for the product lines, which include babbitted journal and thrust bearings, labyrinth seals, and related engineering services.

Mr. Whalen received his B.S. degree (Mechanical Engineering, 1981) from the Rochester Institute of Technology. He is a member of ASME, STLE, and the Vibration Institute, and is a registered Professional Engineer in the State of Texas.