



DISCUSSION GROUP 1

on

TURBOMACHINERY OPERATION AND MAINTENANCE



Charles R. (Charlie) Rutan, Coordinator, is an Engineering Fellow for Lyondell/Equistar Chemicals, LP, at the Chocolate Bayou Chemical Complex, in Alvin, Texas. Initially, he was a Project Engineer for Monsanto Company, then moved into equipment specification, installation, startup, and problem solving. After Monsanto, Mr. Rutan worked for Conoco Chemicals, DuPont, and Cain Chemicals. He was a Mechanical Area Maintenance Manager at the Chocolate Bayou facility prior to being promoted to his present position.

Mr. Rutan received his B.S. degree from Texas Tech University (1973). He was appointed to the Texas Tech University Department of Mechanical Engineering Academy of Mechanical Engineers and is a member of the Turbomachinery Symposium Advisory Committee. He has been active in ASME, the Turbomachinery and the International Pump User's Symposia, the Southern Gas Compression Conference, the Hydraulic Institute, and AIChE.

Richard D. Beck, Coordinator, is with Meridium, Inc., in Roanoke, Virginia. Previously he was the Equipment Reliability Group Supervisor at Chevron Phillips Chemical Company, Cedar Bayou Plant, in Baytown, Texas. He was employed with Chevron since May 1980, primarily in the equipment inspection and machinery reliability fields. Mr. Beck served as the team leader of the Chevron Phillips Chemical Machinery Best Practice team and was one of the implementation coordinators for a companywide reliability software system. His previous Chevron assignments included work at the Pascagoula, Mississippi, refinery; the Belle Chasse, Louisiana, chemical plant; and the Maua, Brazil, chemical facility.

Mr. Beck completed his undergraduate studies at Mississippi State University (Education, 1979) and taught high school mathematics prior to his career with Chevron. He is the former chairperson of API 685 and is a current member of the Sealless Centrifugal Pump Task Force group.



Mark Cooper is a Senior Machinery Engineer with Equistar Chemicals LP, in the Machinery and Reliability Engineering Department, in Channelview, Texas. He has been involved for the past 10 years with machinery reliability, root cause failure analysis, and machinery design improvements for polymer, chemical, and olefins units within Equistar Chemicals.

Mr. Cooper received a B.S. degree (Mechanical Engineering) from Lamar University in (1991).



John R. East is Manager of Engineering and Technical Services for Hickham Industries, Inc., in LaPorte, Texas. His position also entails consultation, troubleshooting, and problem solving in the shop, as well as in the field. Additionally, he is closely involved with engineering and training functions related to turbomachinery analysis, repair, and balancing. He was previously the Staff Mechanical Equipment Technologist for Chevron U.S.A., Inc.

Mr. East was a member of the API Standard 670 Task Forces (Second and Third Editions) and was also a task force member of the new API RP687, "Repair of Special Purpose Rotors."

Darren P. Hebert is a Staff Engineer for the Shell Deer Park Refining Services Company, in Deer Park, Texas. He has 14 years of experience in the oil and petrochemical industry and has been involved with rotating equipment for the last 10 years. Mr. Hebert is presently assigned as the Rotating Equipment Team Leader for Projects/E&C. In this role, he provides guidance to the Project Engineering/E&C organization on rotating equipment specification, selection, installation, and field construction. He is a member of the corporate mechanical seal team and is the focal point for mechanical seals inside the refinery.

Mr. Hebert received a B.S. degree (Mechanical Engineering, 1988) from Lamar University.



Jose (Joe) Moreno is a Senior Machinery Engineer for Equistar Chemicals (formerly Lyondell Petrochemical) at the Channelview, Texas facility. His responsibilities include providing technical direction and support on rotating equipment issues for the site's two olefin units. Prior to his current position, Mr. Moreno worked for OxyChem in Dallas, Texas, and also at Oxy's Chocolate Bayou facility.

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

DISCUSSION GROUP 2

on

VIBRATION MONITORING



Michael J. Drosjack, Coordinator, is member of the Rotating Equipment Engineering Department at Shell Global Solutions (US) Inc., in Houston, Texas. He is responsible for providing technical support for rotating and reciprocating machinery to Shell and Shell affiliated companies, worldwide, as well as commercial customers. Since joining Shell in 1975, he has had assignments on projects involving specification, evaluation, installation, and startup of machinery along with extensive field troubleshooting, particularly in the area of vibration measurement, vibration analysis, and rotordynamics.

Dr. Drosjack received his B.S. degree (Mechanical Engineering, 1970) from Carnegie-Mellon University, and his M.S. (1971) and Ph.D. (1974) degrees (Mechanical Engineering) from The Ohio State University. He is a member of ASME, the Vibration Institute, the Machinery Subcommittee of the Ethylene Products Committee, participates in API task forces, and has been a speaker and panelist for NPRA. He has been a Turbomachinery Symposium Advisory Committee member since 1986.



John R. (Johnny) Dugas, Jr., Coordinator, is Senior Technical Associate in the P&IP Department of E.I. duPont de Nemours and Company, Inc., in Orange, Texas. Since 1980, he has been assigned to the Technical Department of the ethylene manufacturing facility where he is involved in repair, troubleshooting, redesign, and specification of turbomachinery and other process equipment.

He has worked at DuPont since graduating from the University of Southwestern Louisiana with a B.S. degree (Mechanical Engineering, 1973). Previous activities with DuPont dealt with maintenance and construction of mechanical equipment including assignments with DuPont's Construction and Field Service Divisions. He is a registered Professional Engineer in the State of Texas.



Brent E. Churchill is a Staff Engineer with Deer Park Refining Services Company, a division of Equilon, agent for Shell Deer Park Refining Company, in Deer Park, Texas. He is currently assigned to the Electrical Mechanical Department at the Deer Park Refinery. He is responsible for providing rotating equipment support to hydroprocessing and sulfur recovery processing units. This includes providing technical support to operations and maintenance for troubleshooting, repairing, turnaround planning, projects, energy utilization, mechanical integrity, upgrade/revamp of plant equipment, and developing preventive/predictive maintenance programs. Mr. Churchill has been in the Electrical Mechanical Department for four and one half years. Prior to his current assignment, he was at Shell's Martinez Refinery for seven years in various mechanical engineering positions.

Mr. Churchill received his B.S. degree (Mechanical Engineering) from California State University, Fresno. He is a registered Professional Engineer in the State of California.



Daniel G. (Dan) Hale is a PPM Technician for the DuPont Ethylene Plant, Sabine River Works, in Orange, Texas. He is responsible for the periodic vibration monitoring in the ethylene cracking unit, tending the equipment, troubleshooting, making recommendations, and writing job orders. Mr. Hale has had four years in the electric motor overhaul and repair business, 22 years of millwright experience, and 13 years full-time vibration monitoring and diagnostics.



Anthony F. (Tony) Soby is a Senior Staff Engineer with Shell Global Solutions (US) Inc. He has more than 20 years experience in rotating equipment technical support, and is currently involved in the development of integrated condition monitoring systems and technical support to process plant locations within Shell Oil Products and Motiva Enterprises LLC. Mr. Soby has been a leader in the development of Corporate Condition Monitoring and Alarm and Shutdown Guidelines. Currently, he is leading an effort to implement online thermodynamic performance analysis for process compressors.

Mr. Soby has a B.S. degree (Fuel Technology) from Penn State University, and an MSME from the University of Cincinnati. He is a registered Professional Engineer in the State of California.



L.E. (Ed) Watson is a consultant with E.I. Dupont de Nemours & Company, Inc., located in Houston, Texas. He works in the DuPont Engineering Technologies Division of DuPont Engineering. His responsibilities include the specification and repair of turbomachinery and other rotating equipment, vibration and stress analysis, predictive maintenance and equipment reliability improvement, process equipment application, and general engineering consulting on machinery and processes. Mr. Watson has been with DuPont for almost 27 years and works on capital projects and engineering support of plant operations. He previously worked as a designer for Lufkin Industries and as a production engineer with Humble Oil.

Mr. Watson has a B.S. degree from Lamar University and an M.S. degree from The University of Texas at Austin (both in Mechanical Engineering). He is active in the Vibration Institute and is a past chairman of both the Triplex Chapter and Houston Chapter of the Vibration Institute.

DISCUSSION GROUP 3

on

MACHINERY PURCHASING



Terryl Matthews, Coordinator, is a Senior Mechanical Engineering Associate with The Dow Chemical Company, Design and Construction, Houston, Texas. His responsibilities since joining Dow (1973), include specifications, technical support, mechanical and performance testing, consulting, and field assistance in the area of rotating equipment for Dow Chemical worldwide.

Mr. Matthews holds a B.S. degree (Mechanical Engineering, 1972) from the University of Houston. He is a member of ASME, a member of the ASME International Gas Turbine Institute's Industrial and Cogeneration Committee, a member of the API Committee on Refinery Equipment, and is a registered Professional Engineer in the State of Texas.

Paul Brown, Coordinator, is with Elliott Turbomachinery Company, Inc., in Jeannette, Pennsylvania.



Peter J. (Pete) Beaty is a Senior Consultant specializing in turbomachinery at DuPont's Engineering Technology Center, in Wilmington, Delaware. He is responsible for assuring the correct application of compression equipment and systems. He has been involved in numerous rotating machinery installation, startup, and troubleshooting assignments during his 36 years with DuPont.

Mr. Beaty received a B.S. degree (Mechanical Engineering) from Villanova University. He is a Registered Professional Engineer in the State of Delaware, and a member of Pi Tau Sigma, Tau Beta Pi, and ASME. He participates in the development of Process Industry Practices (PIP), API mechanical standards, and represents DuPont on API's Committee for Refinery Equipment. He is Convenor and Project Leader for ISO Standard 10438 (API 614), and Vice Chairman of API Standard 617.

John A. Brossack has been the Senior Purchasing Supervisor in the Mechanical Multi-Project Acquisition Group, MMPAG, in Bechtel's Houston office, since 1995. He is responsible for the purchase of turbomachinery and direct fired equipment. He has managed procurement activities for gas turbines and compressors for a wide range of petrochemical and pipeline projects. Mr. Brossack has 27 years of both field and home office procurement experience in the engineering and construction industry. He joined the construction group of Foster Wheeler Corporation, in 1972, in the Field Procurement and Materials Management department. From 1972 until 1988, he performed these duties at several jobsite locations in the United States and Canada. He joined the Procurement Department with Bechtel Corporation, in Houston, Texas, in 1988, where he worked as a mechanical equipment buyer until moving to his current position.

Mr. Brossack has a B.S. degree (Business Administration, 1972) from Tri-State College, Angola, Indiana.



Ramesh P. Patel is a Sales Engineer with Dresser-Rand Company, in Houston, Texas. He has been with Dresser-Rand since 1966. Mr. Patel has the total sales/marketing responsibility of key clients' compressor, gas turbine, steam turbine, and hot gas expander requirements. He is responsible for providing complete proposals, both commercial and technical, to various client process needs such as: ethylene plants, LNG, FCC, pipeline, air separations, methanol, refinery, injection. He also provides/negotiates commercial terms.

Mr. Patel received a B.S. degree (Chemical Engineering, 1965) from the University of New Mexico, Albuquerque and is a registered Professional Engineer in the State of Texas.



Donald Ravicchio is Vice President Marketing with Elliott Company, in Jeannette, Pennsylvania. He has worked at Elliott for 33 years in various positions involved with the design and application engineering of steam turbines and compressors. His most recent assignments have been in the sales and marketing area.

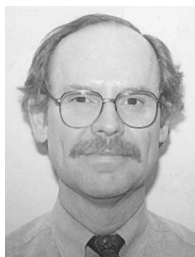
Mr. Ravicchio has a B.S. degree (Mechanical Engineering) from West Virginia University and is a registered Professional Engineer in the State of Pennsylvania.



W.J.H. (Bill) Somerville is an independent consultant with over 19 years' experience in the design, procurement, construction, commissioning, and project management of natural gas compressor station and pipeline facilities, the leadership of people and teams, and the implementation of strategic procurement and supplier quality/improvement programs. He has worked for NOVA Corporation, TransCanada Pipelines, Alliance Pipeline, both domestically and internationally, as well as Air New Zealand and Shell Petroleum Development Company of Nigeria.

During his career, Mr. Somerville has had the following responsibilities: project management, design and installation/commissioning supervision, strategic procurement, supervision of materials procurement/contracting teams, mechanical design and multidiscipline project teams, as well as preliminary and detailed mechanical station design. He has extensive experience with the specification, evaluation, award, installation, and commissioning of turbomachinery.

Mr. Somerville graduated with a B.A.Sc. degree (Mechanical Engineering, 1982) from the University of Waterloo, and is a registered Professional Engineer in the Province of Alberta.



E.V. (Van) Wilkinson is an Engineering Advisor with Shell Chemical Company, in Houston, Texas. He is currently assigned to the Engineering Equipment Department of Plant Engineering and Construction. In this assignment, he is responsible for specification, evaluation, and systems integration of rotating equipment for new processing plants. He also provides field installation, commissioning, and startup support for this new machinery.

Mr. Wilkinson has a B.S. degree (1973) and an M.S. degree (1975) in Mechanical Engineering from the University of Florida. While in college, he was a member of Pi Tau Sigma and Tau Beta Pi professional fraternities. He is a member of the Machinery Function Team of Process Industries Practices (PIP) organization. Mr. Wilkinson is a registered Professional Engineer in the State of Texas.

DISCUSSION GROUP 4
on
OVERSPEED TRIP SYSTEMS



S. Paul Mohan, Coordinator, is a Principal Engineer at Williams Gas Pipelines-TRANSCO, in Houston, Texas. He is responsible for projects aimed at improving reliability, operability, and maintainability of pipeline compressor stations. Previously, at Dresser Clark, he was involved in extensive rotordynamics work and conducted tests on new bearing and seal designs for high pressure barrel compressors. For the next six years, he was with Exxon Chemical Company. He provided consulting assistance on equipment troubleshooting, vibration monitoring, and retrofit projects. He participated in the startup of Exxon's largest olefin plant. In 1982, he joined Transco and participated in the commissioning of the Great Plains Gasification Project.

Mr. Mohan received his B.S. degree (Mechanical Engineering) from I.I.T. Madras, India, and an M.S. degree (Mechanical Engineering, 1972) from the University of Virginia. He has written several technical papers and is a member of ASME and the Vibration Institute.

Discussion Group Leader names not available at press time.

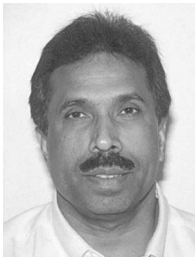
DISCUSSION GROUP 5
on
FLUID FILM BEARINGS AND FLUID FILM SEALS



John B. Cary, Coordinator, is Vice President of Advanced Reliability Technologies, LLC, in Benicia, California. He consults on the development and application of streamlined reliability centered maintenance strategies. He has over 24 years of experience in the hydrocarbon processing and petrochemical industries, responsible for reliability improvement programs.

Mr. Cary was previously with Tosco Refining Company. He was instrumental in the development and implementation of a comprehensive computerized maintenance management system, and led development of the first computer-based data collection system for pipe thickness corrosion monitoring.

Mr. Cary is a 1974 graduate of Columbia College and received his B.S. degree from the University of San Francisco. He has authored and presented several technical papers. He is a member of the Turbomachinery Symposium Advisory Committee and the Vibration Institute.



Gampa I. Bhat, Coordinator, 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. Before joining ExxonMobil, he worked as a Machinery Application Engineer for Union Carbide Corporation, in Charleston, West Virginia.

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.



Douglas A. (Doug) Leonard is an Engineering specialist at the ExxonMobil Chemical Fife Ethylene Plant in Scotland. In this role, he provides direction for the maintenance and operation of machinery at the site and other ExxonMobil Chemical sites in Europe. During his 13 years with ExxonMobil, he has been involved in the specification, selection, construction, startup, and maintenance of pumps, compressors, steam turbines, and gas turbines.

Mr. Leonard received a BSME with honors from the University of Wisconsin - Madison. He is a member of ASME.



Christopher B. (Chris) Stewart is the Manager of Custom Products and Replication for the TurboCare, Houston facility. In this capacity, he is responsible for all activities related to the engineering, design, manufacture, and quality of TurboCare's line of custom bearings, couplings, seals, and direct replacement parts. Mr. Stewart has been involved in the turbomachinery industry for more than 20 years. He has held engineering management positions at Waukesha Bearings and Centrittech/CentriMarc, as well as directing the R&D activities for Waukesha Bearings. Prior to joining TurboCare, he was president of Stewart Engineering Services, providing engineering consulting and field support for the U.S. Navy and bearing manufacturing firms.

Mr. Stewart received a BSME from the University of Texas at Austin (1980). He is a member of STLE, ASME, and the Vibration Institute, and is a registered Professional Engineer in the States of Texas and Wisconsin.



John K. Whalen is the 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 Centrittech, as the Assistant Chief Engineer. In 1989, he was promoted to Manager of Engineering. In 1991, he left Centrittech 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.

DISCUSSION GROUP 6

on

DRY GAS SEALS



John B. Cary, Coordinator, is Vice President of Advanced Reliability Technologies, LLC, in Benicia, California. He consults on the development and application of streamlined reliability centered maintenance strategies. He has over 24 years of experience in the hydrocarbon processing and petrochemical industries, responsible for reliability improvement programs.

Mr. Cary was previously with Tosco Refining Company. He was instrumental in the development and implementation of a comprehensive computerized maintenance management system, and led development of the first computer-based data collection system for pipe thickness corrosion monitoring.

Mr. Cary is a 1974 graduate of Columbia College and received his B.S. degree from the University of San Francisco. He has authored and presented several technical papers. He is a member of the Turbomachinery Symposium Advisory Committee and the Vibration Institute.



Peter C. Rasmussen, Coordinator, is a Supervisor in the Gas & Facilities Division of ExxonMobil Upstream Research Company, in Houston, Texas. He is responsible for developing applications in the LNG and gas area as well as machinery support to the upstream companies. He began his career in machinery with General Electric as a Field Engineer installing and maintaining gas and steam turbines. Mr. Rasmussen joined Mobil in 1978 in the New Orleans E&P Operating Company as a Machinery Engineer and has since held several positions in engineering and operations. His work has included design, construction, and startup of offshore production platforms and LNG plants.

Mr. Rasmussen received his B.S. degree (Ocean Engineering, 1974) from Florida Atlantic University, Boca Raton. He is a registered Professional Engineer in the State of Texas, and is a member of the Turbomachinery Symposium Advisory Committee.

Joe Delrahim is Marketing Segment Manager of Dry-Running Gas Seals with John Crane Inc., in Morton Grove, Illinois. Of his 18 years with John Crane, he spent 13 as an Engineer or Engineering Supervisor, in charge of designing dry-running gas sealing technology.

Mr. Delrahim holds a B.S. degree (Mechanical Engineering) from the University of Oklahoma, and an MBA from the Lake Forest Graduate School of Management, Illinois.



David L. (Dave) Feray is a Principal Machinery Reliability Engineer with Lyondell-Citgo Refining LP, in Houston, Texas. He is responsible for the creation and updating of all LCR machinery specifications, both for new equipment and for maintenance. He has held the position of Team Leader with LCR, responsible for a 65 percent improvement in reliability. Mr. Feray earned the company's Technical Achievement Award for the innovative use of replacement air compressors to allow shutdown of the FCCU main air blower for a thrust bearing repair, without shutting down the FCCU. LCRs walk around vibration program was instituted by him in the late 80s, and he has been a leading advocate of oil mist lubrication over his career.

Mr. Feray has a BSME degree (1968) from Texas A&M University. He is a registered Professional Engineer in the States of Texas and Oklahoma, and is a member of STLE.



Fred J. Hopenwasser is a Machinery Advisor in the ExxonMobil Development Company, in Houston, Texas. He has been working for various Exxon Mobil Corporation's affiliates around the world for approximately 24 years. Mr. Hopenwasser's present responsibilities include working on various project design teams to design, develop technical specifications, and procure major rotating equipment, i.e., gas turbine drivers, centrifugal compressors, recip compressors, power generators, major and critical pumps, etc. Before joining Exxon Corporation in 1979, he had 10fi years with General Electric's Installation & Service Division where he provided technical support to customers of GE turbines, mostly industrial gas turbines.

Mr. Hopenwasser received a B.S. Engineering degree (1968) from the University of Massachusetts-Lowell, and an M.S. Business degree (1977) from De Paul University. He is a member of ASME, and is a registered Professional Engineer in the State of Texas.



Martin J. (Marty) Klosek, is a Compressor Seal Specialist for the Flowserve Corporation, Flow Solutions Division, in Bridgeport, New Jersey. He is responsible for compressor seal sales and technical services within the northeast region of the United States. He has worked in his field since the beginning of his employment with BW/IP International, Inc., in 1994. In 1997, BW/IP International, Inc., and the Durco Corporation merged to form the Flowserve Corporation.

Mr. Klosek received a B.S. degree from Drexel University.



Joseph M. (Joe) Shea is a Senior Rotating Equipment Specialist with Shell Global Solutions (US) Inc., in Houston, Texas. He is currently assigned to the Rotating Equipment Engineering department at the Westhollow Technology Center. Mr. Shea is responsible for providing technical support for rotating and reciprocating machinery to the Shell and Motiva operating facilities, as well as other third-party customers. Since 1980, he has had various assignments at chemical and refining locations related to installation, startup, evaluation, troubleshooting, and repair of machinery.

Mr. Shea received his B.S. degree (Mechanical Engineering, 1980) from Virginia Polytechnic Institute and State University. He is currently Chairman of the corporate Seal Committee and is participating on the API 682 Task Force. He also chairs the corporate Machinery Thermodynamic Performance Committee.



Richard W. (Rich) Wilson is a Senior Staff Engineer for Motiva Enterprise's Delaware City refinery, and has served as a Senior Rotating Equipment Engineer since 1985. He is involved with all facets of rotating equipment in the plant including design, installation, operation, maintenance, and diagnostic evaluation of all refinery machinery. Since being assigned to the rotating equipment engineering group in 1979, Mr. Wilson has been involved with many equipment reliability improvements such as dry gas seal conversions, electronic governor upgrades, and tilt pad bearing retrofits.

Mr. Wilson participated on a dry gas seal panel at University of Virginia's "Romag 91" Conference for Dry Gas Seals in March 1991, and presented a paper on dry gas seals at Saudi Refining's Rotating Equipment Technical Exchange meeting in October 1992.

Mr. Wilson has a B.S. degree (Mechanical Engineering) from University of Delaware. He is a member of ASME and the Delaware Valley Chapter of the Vibration Institute.

DISCUSSION GROUP 7
on
GAS TURBINE AND COMBINED CYCLES



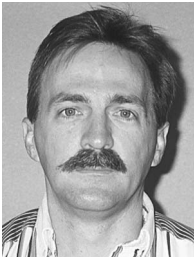
Scott C. McQueen, Coordinator, is Manager of Turbines and Central Shop Division at Reliant Energy, in Houston, Texas. He has 15 years of experience with maintenance and repair of large turbines. Currently, he is responsible for all maintenance activities associated with steam turbines and combustion turbines on Reliant Energy's regulated side. He is also responsible for Reliant Energy's EDC Central Repair Shop. Over the years, Mr. McQueen has contributed a number of papers to various utility organizations including EPRI, the ASME IJPGC, Westinghouse Users Group Conference, and others. He is also a member of the EPRI utility advisory committee for steam turbine outage interval extension.

Mr. McQueen is a 1985 graduate of The University of Texas at El Paso with a B.S. degree in Mechanical Engineering.



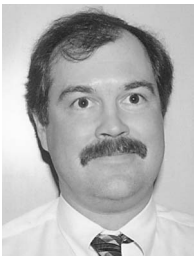
Peter C. Rasmussen, Coordinator, is a Supervisor in the Gas & Facilities Division of ExxonMobil Upstream Research Company, in Houston, Texas. He is responsible for developing applications in the LNG and gas area as well as machinery support to the upstream companies. He began his career in machinery with General Electric as a Field Engineer installing and maintaining gas and steam turbines. Mr. Rasmussen joined Mobil in 1978 in the New Orleans E&P Operating Company as a Machinery Engineer and has since held several positions in engineering and operations. His work has included design, construction, and startup of offshore production platforms and LNG plants.

Mr. Rasmussen received his B.S. degree (Ocean Engineering, 1974) from Florida Atlantic University, Boca Raton. He is a registered Professional Engineer in the State of Texas, and is a member of the Turbomachinery Symposium Advisory Committee.



Michael J. (Mike) Elliott is with Power Spares in Boca Raton, Florida. He has a broad range of experience as a mechanic, technician, and engineer. He was previously with HL&P and was directly responsible for 14 GE Frame 7 gas turbines, and was a resource for approximately 20 more gas turbines of various manufacture. He worked in many different areas within HL&P, including system planning, central maintenance, engineering, and at T.H. Wharton power plant. He worked on a number of international projects in support of Houston Industries Energy Inc., providing technical support to acquisition and new development.

Mr. Elliott received a B.S. degree (Mechanical Engineering) from Mississippi State University and has attended an Executive MBA program at the Jones Business School of Rice University.



Edmond J. (Ed) Jardine is the Business Unit Leader for Gas Turbine Components, TurboCare, in East Hartford, Connecticut. TurboCare is a division of Demag Delaval Turbomachinery Company, in Chicopee, Massachusetts. His current responsibilities cover the aspects of establishing the latest state-of-the-art gas turbine component repair and turbine blade manufacturing facility.

His past responsibilities included establishing gas turbine component repair processes and facilities in the United States and the Middle East. He has 22 years of experience in metallurgical repair processes, such as material rejuvenation, brazing, welding, high temperature coatings, and NDT examinations.

Mr. Jardine was employed by Pratt & Whitney (Materials Engineering Research Laboratory) and Sermatech International (Coatings and Repair Facilities) prior to TurboCare.



Quentin K. Stewart is Program Manager for Power Generation Sales, Solar Turbines, Inc., in Houston, Texas. He has 27 years' experience in Solar Turbines' customer service and power generation organizations, with various management positions in Mexico, Louisiana, Belgium, and Texas. Mr. Stewart was previously Manager of Overhaul at the DeSoto, Texas, overhaul facility. He has written several articles and technical papers for various trade publications and technical seminars on gas turbine maintenance procedures and overhaul/repair options.

Mr. Stewart has a B.S. degree from Brigham Young University and an M.B.A. degree from Utah State University. He is a member of ASME.

DISCUSSION GROUP 8

on

COUPLINGS AND ALIGNMENT



Terryl Matthews, Coordinator, is a Senior Mechanical Engineering Associate with The Dow Chemical Company, Design and Construction, Houston, Texas. His responsibilities since joining Dow (1973), include specifications, technical support, mechanical and performance testing, consulting, and field assistance in the area of rotating equipment for Dow Chemical worldwide.

Mr. Matthews holds a B.S. degree (Mechanical Engineering, 1972) from the University of Houston. He is a member of ASME, a member of the ASME International Gas Turbine Institute's Industrial and Cogeneration Committee, a member of the API Committee on Refinery Equipment, and is a registered Professional Engineer in the State of Texas.



Thomas R. (Tom) Davidson, Coordinator, is Area Maintenance Section Leader for Celanese Chemicals at their Clear Lake, Texas, facility. He joined Celanese in 1978. Through the efforts of his team of three area Team Leaders and two Planners, he is responsible for managing the overall maintenance activities for four production units and the plant utilities area. Prior to assuming his current position, he was Senior Rotating Equipment Engineer in the Clear Lake Plant, Maintenance Engineering Group.

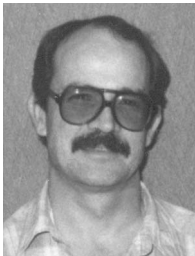
Mr. Davidson received a B.S. degree (Mechanical Engineering, 1978) from the University of Houston. He is a member of the Turbomachinery Symposium Advisory Committee, ASME, NSPE, IMI, and the Vibration Institute. Mr. Davidson is a licensed Professional Engineer in the State of Texas.



Royce N. Brown is Consultant and owner of RNB Engineering, in Houston, Texas. He retired from Dow Chemical in 1995 after 28+ years. His responsibilities there included specifications, instrumentation, controls, and consulting and field assistance for large rotating equipment. He has written 30+ technical papers, including a contribution to the ASM Handbook, *Friction, Lubrication, and Wear Technology*, and a book, *Compressors, Selection and Sizing*.

Mr. Brown is a fellow member of ISA and ASME, a member of SME, AIChE, the Vibration Institute, and an associate member of SAE. He is a member of the API Subcommittee on Mechanical Equipment, and Chairman of the API 617 Task Force on Centrifugal Compressors.

Mr. Brown is a registered Professional Engineer in the States of Texas, Michigan, Louisiana, Wisconsin, and California. He has a B.S. degree (Mechanical Engineering) from the University of Texas and an M.S. degree (Mechanical Engineering) from the University of Wisconsin.



David E. Littlefield is a Senior Design Associate with Dow Chemical U.S.A. in Freeport, Texas. He joined Dow's Engineering and Construction Services Division in 1979, working primarily in the Rotating Equipment Group. He transferred to Texas Operations in 1983, where he has worked in the Mechanical Technology Group, troubleshooting and specifying rotating and general mechanical equipment.

Mr. Littlefield is a 1979 B.S. (Mechanical Engineering) graduate of Texas A&M University. He is a member of ASME and is a registered Professional Engineer in the State of Texas.



Jon R. Mancuso is Director of Engineering with Kop-Flex Inc., Emerson Power Transmission Corporation, in Baltimore, Maryland. He has more than 30 years experience in the coupling field and is author of many papers on couplings for various publications, societies, and symposia. Mr. Mancuso is also author of a book on couplings, *Coupling and Joints: Design, Selection, and Application*, and editor and author of several chapters in *Mechanical Power Transmission Components Handbook*. He has been involved with many design, research projects relating to couplings, and is coinventor of several patents with couplings and clutches.

Mr. Mancuso graduated from Gannon University with a B.S. degree (Mechanical Engineering), and has an M.S. degree (Engineering Science) from Pennsylvania State University. He is chairing the ASME Committee on Couplings and Clutches. In addition, he is a member of the AGMA Coupling Committee, and also serves on the API Committee on Couplings for Special Purpose Applications.



Todd Stevens is a Machinery Engineer for ExxonMobil, at the Baytown Refinery, in Baytown, Texas. His responsibilities include troubleshooting, repair and developing long-term solutions to rotating equipment problems. Mr. Stevens has 11+ years of experience in the field of rotating equipment gained at Equistar Chemicals and Celanese Chemicals.

Mr. Stevens received his B.S. degree (Mechanical Engineering, 1989) from Texas A&M University. He is a member of the Houston Chapter of the Vibration Institute and ASME.

DISCUSSION GROUP 9
on
PERFORMANCE TESTING



Meherwan P. Boyce, Coordinator, is Managing Partner of The Boyce Consultancy, in Houston, Texas. He has 40 years of experience in the turbomachinery field. His industrial experience covers 25 years from design of compressors and turbines to Chairman and CEO of Boyce Engineering International. 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 100 technical publications and several books, including *Gas Turbine Engineering Handbook*. He has taught over 100 short courses globally attended by over 3000 students representing over 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.



Erwin A. Gaskamp, Coordinator, is a Rotating Equipment Specialist with Bechtel Corporation in Houston, Texas. His present work involves application analysis, specification, selection, post order engineering coordination, and acceptance testing for rotating equipment on various projects. He has been involved with rotating equipment for more than 30 years, and has been with Bechtel Corporation since 1981. He has worked on more than 21 projects in the refining, petrochemical, chemical, mining, and cogeneration industries. He has had direct responsibility for application of large compressors, steam turbines, expanders, gas turbines, motors, and generators on projects around the world. He previously worked for M.W. Kellogg Company and Monsanto Company.

Mr. Gaskamp holds a Mechanical Engineering degree from Texas A&M University and is a member of the Turbomachinery Symposium Advisory Committee.



Anthony F. (Tony) Soby is a Senior Staff Engineer with Shell Global Solutions (US) Inc. He has more than 20 years experience in rotating equipment technical support, and is currently involved in the development of integrated condition monitoring systems and technical support to process plant locations within Shell Oil Products and Motiva Enterprises LLC. Mr. Soby has been a leader in the development of Corporate Condition Monitoring and Alarm and Shutdown Guidelines. Currently, he is leading an effort to implement online thermodynamic performance analysis for process compressors.

Mr. Soby has a B.S. degree (Fuel Technology) from Penn State University, and an MSME from the University of Cincinnati. He is a registered Professional Engineer in the State of California.



Ed Wilcox is the CVO Rotating Equipment Team Lead with Lyondell/Equistar, in Channelview, Texas. He is responsible for troubleshooting, repair, and condition monitoring of rotating equipment at both the Lyondell and Equistar facilities. Prior to this, Mr. Wilcox worked for more than 10 years with Conoco and Citgo as a Rotating Equipment Engineer. He has authored several papers in the areas of rotordynamics, vibration analysis, and performance testing.

Mr. Wilcox has a BSME degree from the University of Missouri-Rolla, and an MSME degree from Oklahoma State University. He has also done postgraduate work at the Georgia Institute of Technology in the areas of lubrication, rotordynamics, and vibration. He is a Vibration Institute Level III Vibration Specialist and a registered Professional Engineer in the State of Oklahoma.

DISCUSSION GROUP 10

on GEARS



Clifford P. (Cliff) Cook, Coordinator, is with Texaco, Inc., in Bellaire, Texas. He is Chairman of the API RP 687 Task Force on Repair of Special Purpose Rotors. He is a Texaco Fellow, registered Professional Engineer in the State of Texas, Chairman of the API Subcommittee on Mechanical Equipment, and a member of the Texas A&M Turbomachinery Symposium Advisory Committee. Mr. Cook is a member of API 617 (compressors), 613 (SP gears), 677 (GP gears), 616 (gas turbines), and past member of API 684 (rotordynamics tutorial), 610 (pumps), 618 (reciprocating compressors) task forces.

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.



Kenneth O. (Ken) Beckman, Coordinator, 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.

Paul F. Maier is a Senior Engineer in the Maintenance Engineering Department at the Celanese Chemical Plant, in Pasadena, Texas. He has worked in various maintenance assignments in industry since 1981 and has been with Celanese since 1989. In his current capacity, he provides rotating equipment support for several operating units. One of his primary responsibilities includes day-to-day support for analysis of machinery and process problems. He also provides support for several capital expansions and, as such, participates in the specification, selection, design, review, installation, and startup of rotating equipment.

Mr. Maier graduated from the United States Military Academy at West Point with a B.S. degree (General Engineering, 1976). He is a member of the Vibration Institute and the Society for Maintenance and Reliability Professionals.



Mark R. Sandberg is a Senior Machinery Systems Engineer with ChevronTexaco Energy Research and Technology Company, in Bellaire, Texas. His current duties involve providing technical assistance and services associated with the design, specification, and procurement of new equipment and troubleshooting problems with existing equipment, primarily in upstream oil and gas production operations. Mr. Sandberg has more than 25 years of varied experience in the process industries and has been involved with the design, manufacture, testing, and installation of several small to large gas turbine driven centrifugal compressor trains, including the first application of the General Electric Frame 6 as a compressor driver. Prior to joining ChevronTexaco, 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.

DISCUSSION GROUP 11
on
MOTORS AND VARIABLE SPEED DRIVES



Clifford P. (Cliff) Cook, Coordinator, is with Texaco, Inc., in Bellaire, Texas. He is Chairman of the API RP 687 Task Force on Repair of Special Purpose Rotors. He is a Texaco Fellow, registered Professional Engineer in the State of Texas, Chairman of the API Subcommittee on Mechanical Equipment, and a member of the Texas A&M Turbomachinery Symposium Advisory Committee. Mr. Cook is a member of API 617 (compressors), 613 (SP gears), 677 (GP gears), 616 (gas turbines), and past member of API 684 (rotordynamics tutorial), 610 (pumps), 618 (reciprocating compressors) task forces.

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.



Roy E. Craddock III, Coordinator, is a Senior Staff Machinery Engineer and the Maintenance Technical Services Leader for the Dow Chemical Company Texas City Operations, in Texas City, Texas. He is responsible for leading the diagnostic and maintenance activities for all critical equipment within Texas City Operations. Previously, Mr. Craddock was with Union Carbide Corporation's Central Engineering Division for 20 years, where his responsibilities included equipment specification and selection, installation, commissioning, and startup of critical equipment. He was also responsible for providing troubleshooting assistance to manufacturing locations and their process technology licensees.

Mr. Craddock has a B.S. degree (Mechanical Engineering) from West Virginia Institute of Technology, and is a registered Professional Engineer in the State of West Virginia. He is a Steering Committee member of the API Subcommittee on Mechanical Equipment and is the Chairman of the API RP-686 Task Force on Recommended Practices for Machinery Installation and Installation Design.



Mike Costello is a Senior Specialist in the Electrical and Instrumentation Section of Texaco's General Engineering Department, in Bellaire, Texas. He is responsible for the application, specification, and selection of electrical machinery for Texaco and Joint Venture refinery, exploration and production facilities, and operations.

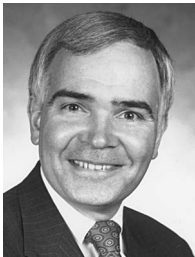
Mr. Costello graduated from New Jersey Institute of Technology (Electrical Engineer, 1980). He is a member of the IEEE Industry Applications and Power Engineering Societies, and serves on a number of Subcommittees and Working Groups with the IEEE. He is Chairman of API 541 and Secretary of API 546, the American Petroleum Institute's Standards for Induction and Synchronous Machines. He also Chairs the API Task Group on Electrical Standard Paragraphs.

DISCUSSION GROUP 12
on
RECIPROCATING COMPRESSORS



S. Paul Mohan, Coordinator, is a Principal Engineer at Williams Gas Pipelines-TRANSCO, in Houston, Texas. He is responsible for projects aimed at improving reliability, operability, and maintainability of pipeline compressor stations. Previously, at Dresser Clark, he was involved in extensive rotordynamics work and conducted tests on new bearing and seal designs for high pressure barrel compressors. For the next six years, he was with Exxon Chemical Company. He provided consulting assistance on equipment troubleshooting, vibration monitoring, and retrofit projects. He participated in the startup of Exxon's largest olefin plant. In 1982, he joined Transco and participated in the commissioning of the Great Plains Gasification Project.

Mr. Mohan received his B.S. degree (Mechanical Engineering) from I.I.T. Madras, India, and an M.S. degree (Mechanical Engineering, 1972) from the University of Virginia. He has written several technical papers and is a member of ASME and the Vibration Institute.



William E. (Bill) Forsthoffer, Coordinator, spent six years at the Delaval Turbine Company, as Manager of Compressor Project Engineering, where he designed and tested centrifugal pumps and compressors, gears, steam turbines, and rotary (screw) pumps.

Mr. Forsthoffer then joined the Mobil Research and Development Corporation. For five years, he directed the application, selection, design, testing, site precommissioning, and startup of the Yanbu Petrochemical complex in Yanbu, Saudi Arabia. Following that, he returned to MRDC and established a technical service program for Mobil affiliates to provide application, troubleshooting, and training services for rotating equipment. He left Mobil in 1990 to found his own company, Forsthoffer Associates, Inc., to provide training, critical equipment selection, and troubleshooting services to the refining, petrochemical, utility, and gas transmission industries.

Mr. Forsthoffer is a graduate of Bellarmine College with a B.A. degree (Mathematics) and from the University of Detroit with a B.S. degree (Mechanical Engineering).

Discussion Group Leader names not available at press time.

DISCUSSION GROUP 13

on

LARGE STEAM TURBINES



Merwin W. Jones, Coordinator, is Senior Engineering Consultant for Thermal Cycles at Mirant Corporation in Aquasco, Maryland. In this position, he provides a variety of internal consulting services to the engineering and maintenance staffs at the company's facilities. Mr. Jones advises these groups on a wide range of issues related to the efficiency, reliability, and maintenance of equipment and systems within the power conversion areas of the power plants.

Since joining Mirant (formerly PEPCO) in 1972, he has been involved with modification or replacement of most equipment in the condensate, extraction, feedwater, cooling water, and turbine systems. He has written papers for the Electric Power Research Institute, the Edison Electric Institute, ASME, the Turbomachinery Symposium, and others.

Mr. Jones is a graduate of the Virginia Polytechnic Institute and State University with a B.S. degree (Mechanical Engineering). He is a member of ASME and is a registered Professional Engineer.



Scott C. McQueen, Coordinator, is Manager of Turbines and Central Shop Division at Reliant Energy, in Houston, Texas. He has 15 years of experience with maintenance and repair of large turbines. Currently, he is responsible for all maintenance activities associated with steam turbines and combustion turbines on Reliant Energy's regulated side. He is also responsible for Reliant Energy's EDC Central Repair Shop. Over the years, Mr. McQueen has contributed a number of papers to various utility organizations including EPRI, the ASME IJPGC, Westinghouse Users Group Conference, and others. He is also a member of the EPRI utility advisory committee for steam turbine outage interval extension.

Mr. McQueen is a 1985 graduate of The University of Texas at El Paso with a B.S. degree in Mechanical Engineering.



Charles (Chuck) D'Angelo III is Team Leader for the Mechanical Equipment Discipline at Shell Chemical Company's Deer Park, Texas Plant. He joined what is now Shell's Westhollow Technology Center in 1991 and transferred to the Deer Park Plant in 1993. Dr. D'Angelo has led teams in detection of underground coal mines, in development of a corporate specification for mechanical seals, in repair and rebuild of turbomachinery, and in setting corporate strategy for turbomachinery throughout all Shell Chemicals' U.S. based olefins plants. He is presently participating actively in development of a joint industry project on compressor reliability.

Dr. D'Angelo received his B.S. degree (Mechanical Engineering) from Cornell University and his M.S. and Ph.D. degrees (Mechanical Engineering) from the University of California at Berkeley. He is a member of ASME and a reviewer for several technical journals. He is also the author of several technical papers.



Donald R. (Don) Leger is the President of the Manufacturing Division of Power Technology Inc., in Fitchburg, Massachusetts, which designs and manufactures rotating equipment. Prior to this position, he was the Marketing Director and General Manager of the Chicopee facility for TurboCare.

Mr. Leger had 25 years of service with General Electric Company, in Fitchburg, Massachusetts. His responsibilities covered mechanical drive steam turbines, feedpump turbines, and industrial turbine generator sets. He has 29 years of experience in steam turbine design, manufacturing, and project management. During his career, he has authored many papers on steam turbine applications and design, and has presented at technical seminars throughout the world. Mr. Leger also served on the API 612 and ISO Working Group for special purpose steam turbines. He is a past member of the Turbomachinery Symposium Advisory Committee.

Mr. Leger has a B.S. degree (Mechanical Engineering) from Northeastern University.



Robert R. (Bob) Rich III is Commercial Support Manager for General Electric, in Charlotte, North Carolina. His primary duties are to work with customers and the GE sales force to aid them in their turbine (steam or combustion) maintenance requirements, focusing on supporting non-GE equipment. He started his current assignment with GE in October of 2000. Mr. Rich started his career with Shell Oil Company and worked at both the Wood River and Wilmington complexes. His duties included troubleshooting and project support for all types of rotating equipment. Mr. Rich moved from Shell in 1987 to Citgo Petroleum Corp. in Lake Charles, Louisiana, as a Senior Staff Reliability Assurance Engineer. In 1991, he went to work for Hoechst Celanese as a Staff Rotating Equipment Engineer, where his initial assignment was in their central engineering support group.

Mr. Rich graduated with a BSME degree (1977) from Clarkson University.

DISCUSSION GROUP 14
on
MAINTENANCE MANAGEMENT



Merwin W. Jones, Coordinator, is Senior Engineering Consultant for Thermal Cycles at Mirant Corporation in Aquasco, Maryland. In this position, he provides a variety of internal consulting services to the engineering and maintenance staffs at the company's facilities. Mr. Jones advises these groups on a wide range of issues related to the efficiency, reliability, and maintenance of equipment and systems within the power conversion areas of the power plants.

Since joining Mirant (formerly PEPCO) in 1972, he has been involved with modification or replacement of most equipment in the condensate, extraction, feedwater, cooling water, and turbine systems. He has written papers for the Electric Power Research Institute, the Edison Electric Institute, ASME, the Turbomachinery Symposium, and others.

Mr. Jones is a graduate of the Virginia Polytechnic Institute and State University with a B.S. degree (Mechanical Engineering). He is a member of ASME and is a registered Professional Engineer.



John B. Cary, Coordinator, is Vice President of Advanced Reliability Technologies, LLC, in Benicia, California. He consults on the development and application of streamlined reliability centered maintenance strategies. He has over 24 years of experience in the hydrocarbon processing and petrochemical industries, responsible for reliability improvement programs.

Mr. Cary was previously with Tosco Refining Company. He was instrumental in the development and implementation of a comprehensive computerized maintenance management system, and led development of the first computer-based data collection system for pipe thickness corrosion monitoring.

Mr. Cary is a 1974 graduate of Columbia College and received his B.S. degree from the University of San Francisco. He has authored and presented several technical papers. He is a member of the Turbomachinery Symposium Advisory Committee and the Vibration Institute.



Bruce Perry is Vice President of Thomason Mechanical Corporation, in Rancho Dominguez, California. His duties include sales and marketing, contract negotiations, and development of corporate policies. He has been involved with the petrochemical and power industries since 1984, providing parts and services for rotating and reciprocating machinery installation, maintenance, and overhaul.

DISCUSSION GROUP 15
on
MAGNETIC BEARINGS



Gampa I. Bhat, Coordinator, 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. Before joining ExxonMobil, he worked as a Machinery Application Engineer for Union Carbide Corporation, in Charleston, West Virginia.

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.

Richard D. Beck, Coordinator, is with Meridium, Inc., in Roanoke, Virginia. Previously he was the Equipment Reliability Group Supervisor at Chevron Phillips Chemical Company, Cedar Bayou Plant, in Baytown, Texas. He was employed with Chevron since May 1980, primarily in the equipment inspection and machinery reliability fields. Mr. Beck served as the team leader of the Chevron Phillips Chemical Machinery Best Practice team and was one of the implementation coordinators for a companywide reliability software system. His previous Chevron assignments included work at the Pascagoula, Mississippi, refinery; the Belle Chasse, Louisiana, chemical plant; and the Maua, Brazil, chemical facility.

Mr. Beck completed his undergraduate studies at Mississippi State University (Education, 1979) and taught high school mathematics prior to his career with Chevron. He is the former chairperson of API 685 and is a current member of the Sealless Centrifugal Pump Task Force group.



Douglas A. (Doug) Leonard is an Engineering specialist at the ExxonMobil Chemical Fife Ethylene Plant in Scotland. In this role, he provides direction for the maintenance and operation of machinery at the site and other ExxonMobil Chemical sites in Europe. During his 13 years with ExxonMobil, he has been involved in the specification, selection, construction, startup, and maintenance of pumps, compressors, steam turbines, and gas turbines.

Mr. Leonard received a BSME with honors from the University of Wisconsin - Madison. He is a member of ASME.

DISCUSSION GROUP 16
on
SCREW COMPRESSORS



Erwin A. Gaskamp, Coordinator, is a Rotating Equipment Specialist with Bechtel Corporation in Houston, Texas. His present work involves application analysis, specification, selection, post order engineering coordination, and acceptance testing for rotating equipment on various projects. He has been involved with rotating equipment for more than 30 years, and has been with Bechtel Corporation since 1981. He has worked on more than 21 projects in the refining, petrochemical, chemical, mining, and cogeneration industries. He has had direct responsibility for application of large compressors, steam turbines, expanders, gas turbines, motors, and generators on projects around the world. He previously worked for M.W. Kellogg Company and Monsanto Company.

Mr. Gaskamp holds a Mechanical Engineering degree from Texas A&M University and is a member of the Turbomachinery Symposium Advisory Committee.



Roy E. Craddock III, Coordinator, is a Senior Staff Machinery Engineer and the Maintenance Technical Services Leader for the Dow Chemical Company Texas City Operations, in Texas City, Texas. He is responsible for leading the diagnostic and maintenance activities for all critical equipment within Texas City Operations. Previously, Mr. Craddock was with Union Carbide Corporation's Central Engineering Division for 20 years, where his responsibilities included equipment specification and selection, installation, commissioning, and startup of critical equipment. He was also responsible for providing troubleshooting assistance to manufacturing locations and their process technology licensees.

Mr. Craddock has a B.S. degree (Mechanical Engineering) from West Virginia Institute of Technology, and is a registered Professional Engineer in the State of West Virginia. He is a Steering Committee member of the API Subcommittee on Mechanical Equipment and is the Chairman of the API RP-686 Task Force on Recommended

Practices for Machinery Installation and Installation Design.



John Bertucci is a Senior Rotating Equipment Engineer for Shell E&P Company in New Orleans, Louisiana. In this capacity, he is responsible for rotating equipment reliability improvement and troubleshooting for approximately one-half of Shell's offshore platforms in the Gulf of Mexico. He previously held similar positions at Shell Oil's Norco Refinery where he supported the alkylation, distilling, and hydrotreating areas, and Shell Chemical's Norco Chemical Plant where he supported the olefins plant. Prior to joining Shell in 1988, Mr. Bertucci was employed by Walk, Haydel & Associates in New Orleans, Louisiana, and by Mobil Oil Corporation in Beaumont, Texas.

Mr. Bertucci received a B.S. degree (Mechanical Engineering, 1982) from the University of New Orleans and an M.S. degree (Engineering, 1994) from The University of New Orleans. He is a registered Professional Engineer in the State of Louisiana.



Mark F. Emerick is the General Manager of GE Power Systems Oil & Gas - AC Compressor, in Appleton, Wisconsin. He joined A-C Compressor (Allis-Chalmers) in 1978 as a New Product Development Engineer in the centrifugal compressor operation. Since that time, he has held positions of increasing responsibility in areas of design, product management, and special projects such as MRP II implementation and TCT (total cycle time).

Mr. Emerick holds both BSME and MSME degrees from the University of Wisconsin-Milwaukee. He is a registered Professional Engineer in the State of Wisconsin, and a member of ASME.

DISCUSSION GROUP 17

on

POLYMER SEALS



John R. (Johnny) Dugas, Jr., Coordinator, is Senior Technical Associate in the P&IP Department of E.I. duPont de Nemours and Company, Inc., in Orange, Texas. Since 1980, he has been assigned to the Technical Department of the ethylene manufacturing facility where he is involved in repair, troubleshooting, redesign, and specification of turbomachinery and other process equipment.

He has worked at DuPont since graduating from the University of Southwestern Louisiana with a B.S. degree (Mechanical Engineering, 1973). Previous activities with DuPont dealt with maintenance and construction of mechanical equipment including assignments with DuPont's Construction and Field Service Divisions. He is a registered Professional Engineer in the State of Texas.



Carroll (Chet) Stroh, Coordinator, is Engineering Manager with TurboCare, Houston Facility, a division of Siemens Demag Delaval Turbomachinery Corporation. Mr. Stroh has over 30 years experience in the rotating equipment business. He started his career with Westinghouse Large Steam Turbine Division when it was located in Lester, Pennsylvania. While there, he was instrumental in bringing the results of their turbine research into the design process.

Mr. Stroh left Westinghouse to join DuPont and moved to their Beaumont, Texas plant, where he consulted on turbomachinery problems in plants throughout the Gulf coast. After five years in the field, he moved to Wilmington, Delaware to the DuPont Experimental Station where he developed his expertise in rotordynamics. Mr. Stroh spent the rest of his career with DuPont acting as a Consultant's Consultant and provided computer simulation of equipment to aid in the troubleshooting process.

Mr. Stroh has authored and coauthored several papers on rotordynamic behavior. He earned a B.S. degree, an M.S. degree, and did three years of post graduate work in Mechanical Engineering at the University of Pennsylvania. He also has a B.A. degree (Mathematics) from Lebanon Valley College. He is a member of Tau Beta Pi.



John K. Whalen is the 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. 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.

DISCUSSION GROUP 18
on
INTEGRALLY GEARED COMPRESSORS



Roy E. Craddock III, Coordinator, is a Senior Staff Machinery Engineer and the Maintenance Technical Services Leader for the Dow Chemical Company Texas City Operations, in Texas City, Texas. He is responsible for leading the diagnostic and maintenance activities for all critical equipment within Texas City Operations. Previously, Mr. Craddock was with Union Carbide Corporation's Central Engineering Division for 20 years, where his responsibilities included equipment specification and selection, installation, commissioning, and startup of critical equipment. He was also responsible for providing troubleshooting assistance to manufacturing locations and their process technology licensees.

Mr. Craddock has a B.S. degree (Mechanical Engineering) from West Virginia Institute of Technology, and is a registered Professional Engineer in the State of West Virginia. He is a Steering Committee member of the API Subcommittee on Mechanical Equipment and is the Chairman of the API RP-686 Task Force on Recommended Practices for Machinery Installation and Installation Design.



Kenneth O. (Ken) Beckman, Coordinator, 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.



Peter J. (Pete) Beaty is a Senior Consultant specializing in turbomachinery at DuPont's Engineering Technology Center, in Wilmington, Delaware. He is responsible for assuring the correct application of compression equipment and systems. He has been involved in numerous rotating machinery installation, startup, and troubleshooting assignments during his 36 years with DuPont.

Mr. Beaty received a B.S. degree (Mechanical Engineering) from Villanova University. He is a Registered Professional Engineer in the State of Delaware, and a member of Pi Tau Sigma, Tau Beta Pi, and ASME. He participates in the development of Process Industry Practices (PIP), API mechanical standards, and represents DuPont on API's Committee for Refinery Equipment. He is Convenor and Project Leader for ISO Standard 10438 (API 614), and Vice Chairman of API Standard 617.



Carl L. Schwarz is a Senior Engineer at Atlas Copco, Comptec, Inc., in Voorheesville, New York. He has been with Atlas Copco since 1988. In his current position he is responsible for all analytic activities in support of production and new products. Previous positions during that time have been in leading the development and test activities of the company. Prior to joining Atlas Copco he held positions with Pratt and Whitney Aircraft and Sulzer Turbosystems.

Mr. Schwarz graduated from Union College, Schenectady (1975). He is currently active on the API 617 Task Force (Seventh Edition) as well as the European Industrial Gas Association (EIGA) committee for revising the Code of Practice for Centrifugal Oxygen Compressors (Sixth Edition).
