

DISCUSSION GROUP 1

on

TURBOMACHINERY OPERATION AND MAINTENANCE



Charles R. (Charlie) Rutan, Coordinator, is Senior Engineering Advisor (Engineering Fellow), a position that is a shared resource with Lyondell/Equistar, in Alvin, Texas. His expertise is in the field of rotating equipment, hot tapping/plugging, and special problems. Mr. Rutan previously worked for the chemical companies of Monsanto, Conoco, DuPont, Cain, and Occidental. He has two patents and consults worldwide on turbomachinery, hot tapping, and plugging problems.

Mr. Rutan received his B.S. degree (Mechanical Engineering, 1973) from Texas Tech University. He has published and/or presented articles in Hydrocarbon Processing, ASME, AIChE, Pumping Systems, Vibration Institute, Houston Business Round Table, Texas A&Ms Turbomachinery and International Pump Users Symposia, Southern Power Machinery and Gas Compression Conference, and Predictive Maintenance Technology Conference. Mr. Rutan is a member of AIChE Process Gas Users Committee, Texas Tech Academy of Engineers, Hydraulic Institute/ANSI Pump Standards Review Committee, and is on the Advisory Committee of the Turbomachinery Symposium.



Richard D. Beck, Coordinator, is Manager of the APM (Asset Performance Management) Consulting group 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 Chemical Machinery Best Practice team and was the implementation coordinator 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). He is the former chairperson of API 685, the Sealless Centrifugal Pump Task Force group, and is currently an active member of SMRP and MARCON.



Mark Cooper is a Principal Machinery Engineer with Equistar Chemicals LP, in the Central Machinery and Reliability Engineering Department, in Channelview, Texas. He has been involved for the past 12 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).

Dale Cox is the Manager of the Machinery Services Group for the Motiva Enterprises Louisiana Refining Complex, in Norco, Louisiana. This group sets the technical direction for the installation, operation, predictive maintenance, repair, and failure analysis for turbomachinery located at the Norco and Convent refineries.

Mr. Cox received a BSME degree (1982) from the University of Virginia. Upon graduation he was employed by Texaco at the Port Arthur, Texas, refinery. In 1998, he relocated to the Convent, Louisiana, refinery when the Shell/Texaco/Saudi Aramco joint venture formed Motiva Enterprises. In 2002, the Convent refinery and Shell Norco refinery were combined to form the Louisiana Refining Complex, and Mr. Cox was appointed manager over both machinery groups. He is a registered Professional Engineer in the State of Texas.

Darren P. Hebert is a Staff Engineer for the Shell Deer Park Refining Services Company, in Deer Park, Texas. He has 15 years of experience in the oil and petrochemical industry and has been involved with rotating equipment for the last 11½ 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 a member of 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.



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

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MACHINERY PURCHASING



Terryl Matthews, Coordinator, is a Principal Rotating Equipment Specialist with Bechtel Corporation, in Houston, Texas. He retired in 2003 from Dow Chemical, Design and Construction, after 30 years. His responsibilities there included specifications, technical support, mechanical and performance testing, consulting, and field assistance in the area of rotating equipment.

Mr. Matthews holds a B.S. degree (Mechanical Engineering, 1972) from the University of Houston. Author of six technical papers, he is a member of ASME, the Ethylene Producers Conference Rotating Machinery Subcommittee, and the ASME International Gas Turbine Institute's Industrial and Cogeneration Committee. He is a former member of the API Committee on Refinery Equipment and sponsor for SOME, served on API Task Forces 613 and 677, is a former member of ASME B73 Committee, and is a registered Professional Engineer in the State of Texas.



Paul C. Brown, Coordinator, is Director of Marketing within the Engineered Products Business Unit of Elliott Company, located in Jeannette, Pennsylvania. A graduate Mechanical Engineer with more than 25 years of involvement in the project management, application, sales, and marketing of rotating machinery, he joined the Elliott Company in 1987 and has been in his current position since 1998. Mr. Brown's duties include managing support of turbomachinery sales of new apparatus and rerates for the petrochemical, oil refinery, liquified natural gas, and the upstream oil and gas markets, worldwide. Other responsibilities include market forecasting, strategic planning, and providing direction for research and development efforts.

Prior to his current position, Mr. Brown served for 10 years as the European, Middle East, Africa manager of field sales for the Industrial Products Business Unit of Elliott Company, located in Basingstoke Hampshire, United Kingdom.



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 APIs 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.



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 21 years' experience in design, procurement, construction, commissioning, and project management of natural gas compressor station and pipeline facilities, leadership of people and teams, and implementation of strategic procurement and supplier quality/improvement programs. He has worked both domestically and internationally for numerous companies and clients, including NOVA Corporation, TransCanada Pipelines, PMMS Asia/Pacific-Air New Zealand, Alliance Pipeline, 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.

Mike Thuillez currently holds the position of Region Sales Manager for GE Oil & Gas, in Houston, Texas. He has more than 25 years of turbomachinery experience in the oil and gas industry working in the areas of field service, product design, marketing, and sales.

Mr. Thuillez has a B.S. degree (Mechanical Engineering) from Clarkson College of Technology, and is a registered Professional Engineer in the State of Texas.



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

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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.



Brent A. Hetrick is with Texaco, Inc., in Bellaire, Texas.



Richard A. (Rich) Lewis is a Mechanical Associate at Dow Chemical in Houston, Texas. He has over 30 years' experience in rotating equipment, and has spent the last 13 years with Dow Chemical in the rotating equipment area. He works with compressors, turbines, pumps, agitators, gears, centrifuges, extruders, and other critical and noncritical rotating equipment. Before joining Dow Chemical, he was Test Engineer, Senior Compressor Application Engineer, and Manager of Zone Engineering with Elliott Company.

Mr. Lewis received a BSME from Penn State University, and is a registered Professional Engineer in the State of Texas. He is a member of the ASME B73 committee, PIP Machinery Function Team, API Mechanical Steering Team, API Subcommittee on Mechanical Equipment, and has served on API Task Forces 619, 674, and 617, where he has served as both a manufacturer's representative and as a user. He is currently Chairman of the API 614 Task Force.

DISCUSSION GROUP 5

on

HOT GAS EXPANDERS



Michael J. Drosjack, Coordinator, is a member of 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.

Lil Kassie, Coordinator, is with BP Amoco, in Whiting, Indiana.



Ben Carbonetto is the Product Supervisor responsible for the design, construction, and testing of FCC hot gas expanders at GE Oil & Gas, CONMEC, in Bethlehem, Pennsylvania. He has been involved in the design, troubleshooting, operation, and failure investigation of hot gas expanders.

Mr. Carbonetto received a B.S. degree (Mechanical Engineering, 1995) from Drexel University and is a member of ASME.



Charles H. (Chuck) Kostors is a Senior Consulting Engineer with Elliott Turbomachinery Company, in Jeannette, Pennsylvania. He is responsible for all design aspects on turbines expanders, which encompasses the aerodynamic and mechanical design for the “dirty flue gas” environment of the fluid catalytic cracking process. Mr. Kostors has 40 years of design experience with hot gas expanders. He has experience in all phases of turbomachinery design. Prior to joining Elliott, Mr. Kostors was involved in performance testing of all central power station equipment for a major utility. Later, he was responsible for maintaining boilers, coal handling equipment, pumps, steam turbines, generators, and all switch gear for the plant.

Mr. Kostors has a B.S. degree (Mechanical Engineering) from Carnegie-Mellon University. He is the author of a number of technical papers and holds two patents. He is a Life Member of ASME and a member of PTC-6 Committee on Steam Turbines.



George Seamon is a Principal Design Engineer for Dresser-Rand Company, in Olean, New York. For the last 16 years, he has been responsible for the aerodynamic and mechanical design and development of hot gas expanders for FCC and nitric acid service. Prior to that, he spent six years on the design of gas turbines and four years on the design of the GHH type hot gas expander. Before joining Dresser-Rand, Mr. Seamon worked for 10 years with General Electric and Pratt & Whitney on heat transfer, aerodynamic, and mechanical design of the turbine section of jet engines.

Mr. Seamon graduated with a BSME/AE degree from Northwestern University (1967).

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



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.



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.

Stan Uptigrove graduated from the University of Calgary with a B.S. degree (Mechanical Engineering). He worked as a Project Engineer in the Gas Transmission Division of Nova Corporation of Alberta for eight years. For the last nine years, Mr. Uptigrove has been extensively involved in the design and installation of dry seal and magnetic bearing systems. Since the formation of Revolve Technologies Inc. in January 1993, he has been actively involved in the company's success with dry seal and magnetic bearing systems. As Director of Marketing for Revolve, he plays a key role in the company's management team and more specifically in the commercialization of these technologies. Mr. Uptigrove has also been very active as Chairman of the Revolve Conference (which highlights these technologies) in conjunction with the National Petroleum Show and the ASME, OMAE Division.



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.



George Young is a Senior Maintenance Engineer with Valero, in Long Beach, California. He has more than twenty years experience with rotating equipment. His responsibilities since joining Valero in 1981 have been as Senior Project Engineer specifying and installing reciprocating compressors, rerating axial compressor and hot gas expander systems, and rerating and performance testing centrifugal compressors.

Mr. Young holds a BSME from San Diego State University and is a past president of the Pacific Energy Association. He is a member of the API Subcommittee on Mechanical Equipment.

DISCUSSION GROUP 7
on
GAS TURBINE AND COMBINED CYCLES



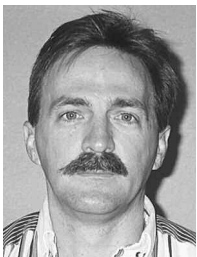
Meherwan P. Boyce, Coordinator, is Managing Partner of The Boyce Consultancy, in Houston, Texas. He has 40 years of experience in the turbomachinery field. His industrial experience covers 25 years from design of compressors and turbines to Chairman and CEO of Boyce Engineering International. His 15 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.



Scott C. McQueen, Coordinator, is Manager of Turbines and Central Shop Division at TexasGenco, 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.



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.

DISCUSSION GROUP 8
on
COUPLINGS AND ALIGNMENT



Terry Matthews, Coordinator, is a Principal Rotating Equipment Specialist with Bechtel Corporation, in Houston, Texas. He retired in 2003 from Dow Chemical, Design and Construction, after 30 years. His responsibilities there included specifications, technical support, mechanical and performance testing, consulting, and field assistance in the area of rotating equipment.

Mr. Matthews holds a B.S. degree (Mechanical Engineering, 1972) from the University of Houston. Author of six technical papers, he is a member of ASME, the Ethylene Producers Conference Rotating Machinery Subcommittee, and the ASME International Gas Turbine Institute's Industrial and Cogeneration Committee. He is a former member of the API Committee on Refinery Equipment and sponsor for SOME, served on API Task Forces 613 and 677, is a former member of ASME B73 Committee, and is a registered Professional Engineer in the State of Texas.



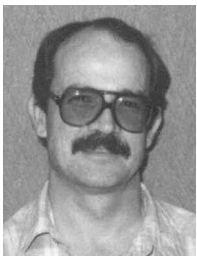
Thomas R. (Tom) Davidson, Coordinator, is Reliability Manager for BOC Gases at their Clear Lake, Texas, facility. He is responsible for managing all maintenance and reliability activities for the site. He has more than 24 years of experience in the petrochemical industry, responsible for managing maintenance and reliability improvement programs.

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 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 API 617 Task Force and API 684.

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, & 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 Reliability Engineer for Equistar Chemicals, in Deer Park, Texas. His responsibilities include unit reliability programs development. Mr. Stevens is involved in equipment troubleshooting, repair, PM planning, turnaround planning, and project development and implementation.

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 Consultant for ExxonMobil Development Corporation, in Houston, Texas. He has been involved with rotating equipment for more than 32 years. 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 Bechtel Corporation, M.W. Kellogg Company, and Monsanto Company.

Mr. Gaskamp holds a Mechanical Engineering degree from Texas A&M University. He is a member of the API Task Force for Standard 541 (induction motors) and is a member of ASME. He has been a member of the Turbomachinery Symposium Advisory Committee since 1988.



John W. Fulton is a Distinguished Engineering Associate with ExxonMobil Research and Engineering Company at Fairfax, Virginia. In his 31 years with Exxon, he has worked in all phases of machinery engineering and in research and development. Mr. Fulton enjoyed years of assignments in Libya, Venezuela, Alaska, London, and Kuala Lumpur. He has published papers on case histories of vibration problems caused by rotordynamic instability and by rotating stall in high pressure centrifugal compressors. He is coinventor of six U.S. Patents.

Mr. Fulton has a B.S. degree (Mechanical Engineering) from New Jersey Institute of Technology.



Mark R. Sandberg is a Senior Staff 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 10

on GEARS



Clifford P. (Cliff) Cook, Coordinator, retired from ChevronTexaco and is President of CVC Engineering, in Houston, Texas. He provides turbomachinery consulting services to the process industries with 37 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, and 618. He also serves on the ANSI Technical Advisory Group to ISO Technical Committee 67 Subcommittee 6. 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.



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.



Kazim Akhtar is the Chief Engineer for the Rotating and Packaged Equipment Group of ABB Lummus Global, Inc., Houston Division, in Houston, Texas. His group is involved in the specification, selection, design review, shop test acceptance, and startup coordination of rotating/packaged equipment for major refinery, petrochemical, oil and gas, and cogeneration projects. Mr. Akhtar has been extensively involved in various grass roots and revamped ethylene, coal fired cogeneration, and refinery projects in domestic and overseas locations.

Mr. Akhtar received a B.S. degree (Mechanical Engineering, 1974) from Texas A&M University, and an M.S. degree (Industrial Engineering (Management), 1978) from the University of Houston. He is a member of ASME, AIChE, Ethylene Producers, API Subcommittee of the Mechanical Equipment Committee, and a registered Professional Engineer in the State of Texas.



John Amendola Sr. has been with Artec Machine Systems, in North Branford, Connecticut, for 30 years (he joined MAAG Gear in 1974). Prior to that, he worked with Western Gear Corporation; Texaco, Inc.; and The Boeing Company. Mr. Amendola was on the Engineering Faculty of the University of New Haven for two years. He is a member of the API 613 Task Force, and a member of the following Technical Executive AGMA committees: Helical Gear Rating; Chairman, High Speed Units; Chairman, technical advisory group ISO; and Wind Turbine.

Mr. Amendola has a B.S. degree (Mechanical Engineering) from Villanova University, and an M.S. degree (Mechanical Engineering) from Brooklyn Polytechnic Institute.

DISCUSSION GROUP 11
on
MOTORS AND VARIABLE SPEED DRIVES



Roy E. Craddock III, Coordinator, is Senior Staff Machinery Engineer and 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 States of West Virginia and Texas. 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.

Robert F. (Bob) Heyl, Coordinator, is a Staff Consultant in ChevronTexaco's Energy, Research, and Technology Company, in Bellaire, Texas. He is also team leader of the ChevronTexaco Machinery and Mechanical Systems Technology Rapid Execution network, and he is leader of the Mechanical Equipment Round Table attended by ChevronTexaco mechanical equipment personnel from around the world. Mr. Heyl has been with Texaco and ChevronTexaco for 32 years and is responsible for the design and troubleshooting of mechanical equipment internationally. His responsibilities include equipment application, specification, selection, installation, troubleshooting, and the development and promotion of new technologies throughout the company.

Mr. Heyl has a B.S. degree (Engineering Science) from Hofstra University and attended Columbia University. He is a Steering Committee member of the API Subcommittee on Mechanical Equipment, and is Chairman of API 674 Task Force and API 676 Task Force. He has also participated on API 682, API 614, and API 610.

DISCUSSION GROUP 12

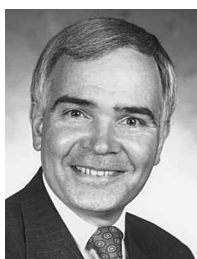
on

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).



Alan S. Pyle is a Staff Engineer in the Mechanical Equipment Department of Shell Chemical's Deer Park Chemical Plant, in Deer Park, Texas. He provides rotating equipment support to the olefins units. During his 25 years with Shell, he has been in various rotating equipment support assignments in refineries, natural gas liquids processing plants, and chemical plants. Mr. Pyle is currently a member of the task force that is preparing the Fifth Edition of API 618, "Specification for Reciprocating Compressors," and is the Chairman of the task force that is writing a new API document RP688, "Tutorial on Pulsation Control," that will supplement API 618.

Mr. Pyle joined Shell in 1976 after receiving a BSME degree from West Virginia University. He is a member of ASME and SAE.

DISCUSSION GROUP 13

on

LARGE STEAM TURBINES



Scott C. McQueen, Coordinator, is Manager of Turbines and Central Shop Division at TexasGenco, 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.



Steven Brewton, Coordinator, is Manager of Mechanical Equipment for TXU Energy, in Dallas, Texas. He is responsible for the repair of major equipment that ships offsite for repair, and for the mechanical technical recommendations on fossil power plant equipment. He has worked for TXU Energy for 23 years and has held various positions including Manager of Equipment Repair, Manager of Maintenance Services, and Senior Engineer. He previously worked as a Plant Manager for the City of Bryan, Texas, and for Westinghouse Electric Corporation as a Field Service Engineer. As a Field Service Engineer, he worked with inspection, repair, and installation of steam turbines, mainly in Texas.

Mr. Brewton has a B.S. degree (Mechanical Engineering, 1972) from New Mexico State University. He is a member of ASME and is a registered Professional Engineer in the State of Texas.



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 Director of Manufacturing for DRS 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, feed pump turbines, and industrial turbine generator sets. He has 30 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.

John Rankin is Technical Service Manager with Seimens-Westinghouse, servicing TexasGenco, in Houston, Texas. He began working with Westinghouse Electric Corporation in 1980 in field service. He has an extensive background in field service and maintenance with steam turbine generators and auxiliaries.

Mr. Rankin has a B.S. degree (Mechanical Engineering) from the University of Texas at Austin.

DISCUSSION GROUP 14
on
MAINTENANCE MANAGEMENT



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



Steven (Steve) O'Toole, Coordinator, is Mechanical Integrity Consultant for Dynege Midstream Services, the natural gas processing division of Dynege, Inc., in Houston, Texas. His responsibilities include providing staff level technical support for natural gas processing facilities in mechanical design and reliability issues, and troubleshooting mechanical equipment. Mr. O'Toole is an advisor with the Maintenance Improvement Process and Root Cause Failure Analysis Program to identify high impact equipment and improve equipment reliability. He administers the support and application of the Computer Maintenance Management System for the division. Previous experience includes project engineering for Gulf Oil Company Solvent Refined Coal Liquefaction Pilot Plant, and Mechanical Design and Reliability Engineer for Warren Petroleum Company.

Mr. O'Toole has a BSME from the University of North Dakota, School of Engineering and Mines. He is a registered Professional Engineer and a member of ASME, the American Welding Society, and the National Association of Corrosion Engineers.



Mike E. Gray is the Maintenance Reliability Advisor for Dynege Midstream Services, the natural gas processing division of Dynege, Inc., in Houston, Texas. His current responsibilities include facilities maintenance management enhancement and maintenance and operations optimization. This includes equipment prioritization, job plan development, planning/scheduling, and root cause failure analysis. His former work experiences include plant management, Maintenance Manager, Operations/Maintenance Supervisor, Equipment Analyst, and Mechanic.

Mr. Gray has an Associates degree (Mechanical Engineering Technology) from New Mexico State University. He has 29 years of experience in the natural gas gathering, processing, treating, and fractionation business.



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.



Christopher L. (Chris) Short is a Maintenance Superintendent at the Lyondell-Citgo Refinery, in Houston, Texas. His experience includes increasing responsibilities in the areas of maintenance, engineering, and management. In his current role, Mr. Short is responsible for managing the overall maintenance activities for six production areas. Those activities include the implementation of planning and scheduling processes, managing the execution work force, and coordinating reliability and improvement projects. Prior to joining LCR in 2002, he began his career at Blue Bell Creameries as a Maintenance Supervisor, later joining Rohm & Haas Company as a Maintenance Engineer, with increasing responsibilities as a Reliability Engineer and a Maintenance Manager.

Mr. Short received a B.S. degree (Mechanical Engineering, 1993) from Texas A&M University.

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 Manager of the APM (Asset Performance Management) Consulting group 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 Chemical Machinery Best Practice team and was the implementation coordinator 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). He is the former chairperson of API 685, the Sealless Centrifugal Pump Task Force group, and is currently an active member of SMRP and MARCON.

Chet Farabaugh is the Marketing Manager for S2M America, based in Roanoke, Virginia. This organization is part of the Actidyne® headed by Société de Mécanique Magnétique (S2M) based in Saint Marcel, France. S2M America is responsible for sales and technical support of Actidyne® Magnetic Bearing Systems within North America.

Mr. Farabaugh has a total of more than 18 years of experience with turbomachinery and for the last 10 years has been involved specifically with the application of magnetic bearings. He has a B.S. degree in Mechanical Engineering (1979) and an MBA (1990), both from the University of Pittsburgh. He is a member of ASME and is a registered Professional Engineer in the State of Pennsylvania.

DISCUSSION GROUP 16

on

SCREW COMPRESSORS



Erwin A. Gaskamp, Coordinator, is a Consultant for ExxonMobil Development Corporation, in Houston, Texas. He has been involved with rotating equipment for more than 32 years. 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 Bechtel Corporation, M.W. Kellogg Company, and Monsanto Company.

Mr. Gaskamp holds a Mechanical Engineering degree from Texas A&M University. He is a member of the API Task Force for Standard 541 (induction motors) and is a member of ASME. He has been a member of the Turbomachinery Symposium Advisory Committee since 1988.



Roy E. Craddock III, Coordinator, is Senior Staff Machinery Engineer and 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 States of West Virginia and Texas. 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.



Richard A. (Rich) Lewis is a Mechanical Associate at Dow Chemical in Houston, Texas. He has over 30 years' experience in rotating equipment, and has spent the last 13 years with Dow Chemical in the rotating equipment area. He works with compressors, turbines, pumps, agitators, gears, centrifuges, extruders, and other critical and noncritical rotating equipment. Before joining Dow Chemical, he was Test Engineer, Senior Compressor Application Engineer, and Manager of Zone Engineering with Elliott Company.

Mr. Lewis received a BSME from Penn State University, and is a registered Professional Engineer in the State of Texas. He is a member of the ASME B73 committee, PIP Machinery Function Team, API Mechanical Steering Team, API Subcommittee on Mechanical Equipment, and has served on API Task Forces 619, 674, and 617, where he has served as both a manufacturer's representative and as a user. He is currently Chairman of the API 614 Task Force.

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.



Robert W. Parker is a Maintenance Specialist with E.I. du Pont de Nemours & Company, Inc., in Orange, Texas. He has been with DuPont for more than 30 years with responsibility for maintenance, reliability, and troubleshooting of rotating equipment in the ethylene unit at Sabine River Works.

Mr. Parker attended Lamar University.



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 Centritech/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 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 Senior Staff Machinery Engineer and 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 States of West Virginia and Texas. 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.
