



## 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 Beck, Coordinator**, has been the Equipment Reliability Group Supervisor at Chevron Phillips Chemical Company, Cedar Bayou Plant, in Baytown, Texas, since 1990. He has been employed with Chevron since May 1980, primarily in the equipment inspection and machinery reliability fields. Mr. Beck serves as the team leader of the Chevron Phillips Chemical Machinery Best Practice team and is one of the implementation coordinators for a company-wide reliability software system. His previous Chevron assignments include 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.



**Darren P. Hebert** is a Staff Engineer for Shell Deer Park Refining Services Company, in Deer Park, Texas. He has 12 years of experience in the oil and petrochemical industry and has been involved with rotating equipment for the last eight and one half years. Mr. Hebert presently supports the distillation, alkylation, and coker areas. In this role, his responsibilities include troubleshooting, repair, and upgrade of plant rotating equipment. He is also the focal point for mechanical seals inside the refinery and sits on the corporate mechanical seal team.

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



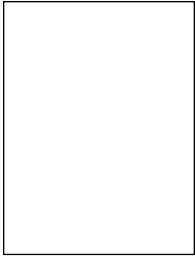
**Jose (Joe) Moreno** is a Senior Machinery Engineer for Equistar Chemicals (formerly Lyondell Petrochemical) at the Channelview, Texas facility. His responsibilities include providing technical direction and support on rotating equipment issues for the site's two olefin units. Prior to his current position,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



**William G. (Bill) Robichaux II** is a Staff Mechanical Engineer specializing in machinery applications for Motiva Enterprises LLC, at the Norco Refining location. He is responsible for specifying the technical requirements in the specification, selection, design, review, startup, maintenance, and repair of rotating equipment. His previous experience involved the repair design of military gas turbine engines with Pratt & Whitney, applying repair theory and design applications with the Elliot Company, and applying the repair knowledge of industrial machinery applications with Cytec Industries.

Mr. Robichaux has a B.S. degree (Mechanical Engineering) from the University of Southwestern Louisiana. He is also a registered Professional Engineer in the State of Louisiana.



**Eric Sandle** is with Sandle Custom Bearing Corporation, in Wellsville, New York.

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## DISCUSSION GROUP 2

on

### VIBRATION MONITORING

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**Michael J. Drosjack, Coordinator**, is Senior Engineering Advisor in the Reliability and Process Safety Department of Equilon Enterprises LLC, in Houston, Texas. He is responsible for providing technical support for rotating and reciprocating machinery to Equilon, Motiva refining companies, and Shell Chemical's manufacturing facilities. 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.

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**John R. (Johnny) Dugas, Jr., Coordinator**, is a 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.

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**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 three 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.

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**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, 19 years of millwright experience, and 10 years full-time vibration monitoring and diagnostics.

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**Gregory R. (Greg) Martin** has worked for Bently Nevada Corporation, in Naperville, Illinois, since 1984 as Sales Engineer, Sales Manager, Corporate Account Manager, and Regional Sales Manager. He previously worked, from 1979 until 1984, as an Application Engineer with Foote-Jones Gear Division of Dresser Industries.

Mr. Martin has a B.S. degree (General Engineering, 1977) from University of Illinois and an M.B.A. (1979) from Western Illinois University.



**Bryan L. Mueller** is a Machinery Engineer with Equilon Enterprises LLC at the Martinez Refinery, in Martinez, California. His responsibilities include technical support to operations and maintenance for various machinery in the refinery and lubricants plant, reliability measurement focal point, and permanent vibration monitoring focal point. He joined the Martinez Refinery in 1991 as a Project Engineer and has been in his current position since 1993.

Mr. Mueller holds a B.S. degree (Mechanical Engineering) from the University of Wyoming and is a registered Professional Engineer in the State of California.



**Anthony F. (Tony) Soby** is a Staff Engineer with Equilon Enterprises LLC, in Martinez, California. He has been with Equilon Enterprises for a little more than a year and with Shell Oil Company prior to that for 29 years. His primary focus has been equipment reliability improvement. He has been responsible for the development and implementation of vibration monitoring programs for both general purpose and critical process machinery. Most recently, Mr. Soby has completed several reliability improvement projects on hydrogen recycle machines at the Martinez Refining Company including a seal oil system revamp along with seal and bearing upgrades. He is also chairing a committee for the development of a corporate condition monitoring guideline.



**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**

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**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 ASME B73 Chemical Standard Pump Committee, a member of the API Committee on Refinery Equipment, and is a registered Professional Engineer in the State of Texas.

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**Kevin S. Eads, Coordinator**, is Manager, Process Marketing, within the Engineered Products Business Unit of Elliott Company, located in Jeannette, Pennsylvania. He has been employed by Elliott since graduation from college. He has been in his current position since 1990. His duties require managing a group of application and marketing engineers in support of turbomachinery sales of new apparatus and rerates/retrofits for the petrochemical, oil refinery, liquefied natural gas, and industrial markets worldwide. His responsibilities also include market forecasting, strategic planning, and directing research and development efforts.

Prior to his current position, he served for 10 years as an international Field Sales Engineer promoting and coordinating the sale of Elliott turbomachinery products throughout Southeast Asia, Australia, New Zealand, Western USA, and Western Canada. Other previous positions within Elliott include Project Engineer and Product Design Engineer.

Mr. Eads holds a B.S. degree (Mechanical Engineering) from West Virginia University (1977).

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**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 34 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.

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**Michael Bonneau** is with The Dow Chemical Company, in Houston, Texas.

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**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 Sales and Marketing with Elliott Company, in Jeannette, Pennsylvania. He has worked at Elliott for 32 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.

**DISCUSSION GROUP 4**  
**on**  
**OVERSPEED TRIP SYSTEMS**

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**S. Paul Mohan, Coordinator**, is a Staff Transmission 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.

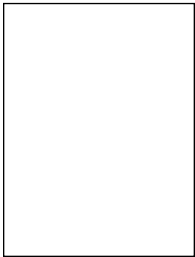
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**Roy E. Craddock III, Coordinator**, is a Senior Staff Machinery Engineer for a Fortune 500 chemical company in South Charleston, West Virginia. His responsibilities in the machinery area include equipment specification and selection, installation, commissioning, and startup of critical equipment for major domestic and foreign petrochemical projects. He is also responsible for providing troubleshooting assistance to manufacturing locations and their process technology licensees. Prior to his present position, Mr. Craddock was employed with FMC Corporation in the Maintenance Engineering Department.

Mr. Craddock has a B.S. degree 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.

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**Paul Besse** is with Union Carbide Corporation, in Hahnville, Louisiana.

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

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**DISCUSSION GROUP 5**  
**on**  
**FLUID FILM BEARINGS AND FLUID FILM SEALS**

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**John B. Cary, Coordinator**, is Vice President of Advanced Reliability Technologies, LLC, in Walnut Creek, 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, Vibration Institute, and Pacific Energy Association.

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**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.

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**Hurler G. Elliott** is a private Engineering Consultant with a major petrochemical company, in League City, Texas. His present responsibilities include staff support for rotating equipment involving specification development and procurement, design audits, rerates, installation, and startups. Prior to his present job, Mr. Elliott spent nine years each with Saudi Petrochemical Company and Exxon Chemicals performing plant support activities in maintenance, troubleshooting, and vibration analysis. Mr. Elliott's experience also covers a variety of staff support positions with Toro Manufacturing Corporation in Minneapolis, Minnesota, and Aluminum Company of Canada. He has authored several technical papers and has contributed articles to two books.

Mr. Elliott has a B.S. degree (Mechanical Engineering, 1971) from the University of the West Indies and is a member of the Vibration Institute and ASME.

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**Christopher B. (Chris) Stewart** is the Engineering Manager for Waukesha Bearings Corporation, in Pewaukee, Wisconsin. He has been involved in the turbomachinery industry for the last 20 years in the areas of bearing design and machine analysis. He has held positions at Dow Chemical, Engineering and Construction Services, Centritech/CentriMarc, and Engineering Dynamics, Inc. In his current capacity, Mr. Stewart is responsible for research and development at Waukesha Bearings as well as the overall direction of the engineering activities of the company.

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

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## DISCUSSION GROUP 6

on

## DRY GAS SEALS

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**John B. Cary, Coordinator**, is Vice President of Advanced Reliability Technologies, LLC, in Walnut Creek, 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, Vibration Institute, and Pacific Energy Association.

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**Peter C. Rasmussen, Coordinator**, is an Advisor in the Technology Applications 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.

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**Stephen L. (Steve) Edney** is Manager of Core Technology at Dresser-Rand's Wellsville Operation in New York. The Core Technology Department is responsible for the development, application, and troubleshooting activities in aero/thermodynamics, materials science, rotordynamics, and stress analysis of steam turbines. Dr. Edney started his career in 1983 at GEC-Alsthom in the United Kingdom. He joined Dresser-Rand in 1991, and has since held supervisory positions in rotordynamics, and stress and vibration.

Dr. Edney received B.Sc. (1983) and Ph.D. (1990) degrees (Mechanical Engineering) from the University of Nottingham, England, and is a member of ASME and the Vibration Institute, and an associate member of IMechE. He holds one U.S. Patent, and has authored numerous technical papers in rotor and bearing dynamics.

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**Michael S. (Mike) Fynan** is a Staff Mechanical Engineer in the Martinez Refining Company Division of Equilon Enterprises LLC, located in Martinez, California. He currently provides machinery technical support to the Delayed Coking Department. Prior to his current assignment, Mr. Fynan was a machinery engineer for Shell Oil Company in the Wood River, Illinois facility. He has completed various technical and management assignments in the rotating machinery field for more than 20 years.

Mr. Fynan received his B.A. degree (Physics) from Franklin & Marshall College, his B.S. degree (Mechanical Engineering) from Washington University in St. Louis, Missouri, and his M.S. degree (Mechanical Engineering, 1977) from Rensselaer Polytechnic Institute. He is a registered Professional Engineer in the State of Illinois and a member of Sigma Pi Sigma. Mr. Fynan participated on the API RP-686 Task Force on Recommended Practices for Machinery Installation and Installation Design.

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**Joseph M. (Joe) Shea** is a Staff Engineer with Equilon Enterprises LLC, in Houston, Texas. He is currently assigned to the Reliability & Process Safety Department at the Westhollow Technology Center. Mr. Shea is responsible for providing technical support for rotating and reciprocating machinery to the Shell, Equilon, and Motiva operating facilities. 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.



**James W. (Jim) Vinson** is a Senior Engineer with Rohm and Haas Company, at the Deer Park, Texas facility. He provides technical assistance on rotating equipment to all the operating units of the plant. This assistance includes design upgrades, selection, evaluation, installation, and startup of new machinery. Additionally, he is responsible for reliability and life cycle cost analysis, troubleshooting, and performance evaluation of existing equipment. He recently completed a field assignment targeted at enhancing maintenance excellence by increasing MTBPR and reducing life cycle costs.

Mr. Vinson received a B.S. degree (Electrical Engineering) from Vanderbilt University (1968) and an M.S. (Computer Engineering) from University of Houston-Clear Lake (1996). He has more than 20 years of experience applying advanced monitoring, analysis, and modelling techniques to rotating equipment. He has coauthored papers and presentations for EPRI and ASME on expert systems, and rotating equipment troubleshooting.



**Richard W. (Rich) Wilson** is a Senior Staff Engineer for Motiva Enterprise's Delaware City refinery, and has served as a Senior Reliability 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 reliability 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.



**Karl J. Wolfe** is currently working as a Machinery Engineer supporting worldwide Upstream Operations for ExxonMobil, in Houston, Texas. He has been employed with ExxonMobil Corporation for more than 14 years, working on various types of rotating equipment and machinery around the world. He worked more than eight years in West Texas at NGL and LPG facilities as a Mechanical Engineer. Mr. Wolfe worked as a Rotating Equipment Specialist at the PT Arun LNG Plant in Sumatra, Indonesia, for four years and then spent two years in Eastern Canada as a Senior Mechanical Commissioning Engineer in Nova Scotia.

Mr. Wolfe is a 1986 graduate of Texas Tech University (Mechanical Engineering).

**DISCUSSION GROUP 7**  
**on**  
**GAS TURBINE AND COMBINED CYCLES**

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**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.

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**Peter C. Rasmussen, Coordinator**, is an Advisor in the Technology Applications 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.

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

His past responsibilities included establishing gas turbine component repair processes and facilities in the United States and the Middle East. He has 20 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.

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**Quentin K. Stewart** is Program Manager for Power Generation Sales, Solar Turbines, Inc., in Houston, Texas. He has 25 years' experience in Solar Turbines' customer service and power generation sales organizations, with various management positions in Mexico, Louisiana, Belgium, and Texas. Mr. Stewart was previously Manager of Overhaul at the DeSoto, Texas, overhaul facility.

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.

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## DISCUSSION GROUP 8

on

### COUPLINGS AND ALIGNMENT

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**Terry 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 ASME B73 Chemical Standard Pump Committee, a member of the API Committee on Refinery Equipment, and is a registered Professional Engineer in the State of Texas.

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**James H. Hudson, Coordinator**, is Consultant for A-C Compressor Corporation, in Appleton, Wisconsin. He began his career with Allis Chalmers Corporation in 1965 and served in many capacities. In 1985, A-C Compressor Corporation purchased the Compressor Division from Allis Chalmers, and he became Manager of Engineering. He assumed his current position in 1987.

Mr. Hudson graduated with a BSME from Newark College of Engineering (1965). He has been a Task Force member on the Fourth, Fifth, and Sixth Editions of the API 617 Specification for Centrifugal Compressors, the API Task Forces on Quality Improvement, Rotordynamics, and 671 for Couplings. He presently is a member of the API 617 Seventh Edition Task Force and the API 684 Second Edition Task Force and has published papers on torsional vibration and lateral vibration. Mr. Hudson is a registered Professional Engineer in the State of Wisconsin and holds two United States patents.

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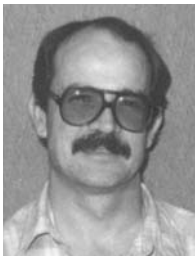


**Royce N. Brown** is Consultant and owner of RNB Engineering, in Houston, Texas. He retired from Dow Chemical in 1995 after 28+ years. His responsibilities there included specifications, instrumentation, controls, and consulting and field assistance for large rotating equipment. He has written 30+ technical 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.

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**David E. Littlefield** is a Senior Design Specialist 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.

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**Jon R. Mancuso** is Engineering Manager of Kop-Flex Inc., Emerson Power Transmission Corporation, in Baltimore, Maryland. He has more than 30 years of 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 co-inventor 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.

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**C. Richard Massey** is the President of A-Line Manufacturing Company, Inc., a manufacturer of precision reverse alignment tools, located in LaPorte, Texas. He gained 16 years of experience with the Atlantic-Richfield Houston refinery as a machinist. After being granted a patent on the alignment tools he now manufactures, he took early retirement from ARCO and founded A-Line Manufacturing in 1985.

Mr. Massey is a member of ASME, the Vibration Institute, International Maintenance Institute, and the Pacific Energy Association.

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**Christopher P. (Chris) Rackham** is Engineering Manager for John Crane Flexibox, in Houston, Texas. He has been with Flexibox, Inc., since receiving a B.S. degree in Engineering from Pennsylvania State University (1979). Prior to his current position, he served as Design Engineer and Applications Engineer. His responsibilities include design specifications, application reviews, quality assurance, and field support for power transmission couplings, mechanical seals, and ancillary equipment.

Mr. Rackham has served on the API Manufacturers Subcommittee on Couplings (671) and consultant to API Manufacturers Subcommittee on Mechanical Seals (610).

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**DISCUSSION GROUP 9**  
**on**  
**PERFORMANCE TESTING**

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**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.

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**Kevin S. Eads, Coordinator**, is Manager, Process Marketing, within the Engineered Products Business Unit of Elliott Company, located in Jeannette, Pennsylvania. He has been employed by Elliott since graduation from college. He has been in his current position since 1990. His duties require managing a group of application and marketing engineers in support of turbomachinery sales of new apparatus and rerates/retrofits for the petrochemical, oil refinery, liquefied natural gas, and industrial markets worldwide. His responsibilities also include market forecasting, strategic planning, and directing research and development efforts.

Prior to his current position, he served for 10 years as an international Field Sales Engineer promoting and coordinating the sale of Elliott turbomachinery products throughout Southeast Asia, Australia, New Zealand, Western USA, and Western Canada. Other previous positions within Elliott include Project Engineer and Product Design Engineer.

Mr. Eads holds a B.S. degree (Mechanical Engineering) from West Virginia University (1977).

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**Rainer Kurz** is Manager of Systems Analysis and Field Testing for Solar Turbines Inc., in San Diego, California. His organization is responsible for predicting gas compressor and gas turbine performance, for conducting application studies, and for field performance tests on gas compressor and generator packages.

Dr. Kurz attended the University of the Federal Armed Forces in Hamburg, Germany, where he received the degree of a Dipl.-Ing., and, in 1991, the degree of a Dr.-Ing. He has authored numerous publications in the field of turbomachinery and fluid dynamics.

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**Ed Wilcox** is a Senior Staff Engineer with Conoco, Inc., in Westlake, Louisiana, where he is the Reliability Engineer for Excel-Paralubes, a joint venture between Conoco and Pennzoil. He also provides technical support for the adjacent Conoco Refinery. His responsibilities include maintenance, troubleshooting, and specification of rotating equipment.

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

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## DISCUSSION GROUP 10

### on GEARS



**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.



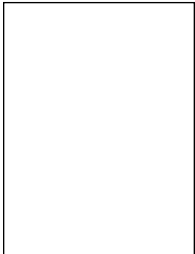
**Roy E. Craddock III, Coordinator**, is a Senior Staff Machinery Engineer for a Fortune 500 chemical company in South Charleston, West Virginia. His responsibilities in the machinery area include equipment specification and selection, installation, commissioning, and startup of critical equipment for major domestic and foreign petrochemical projects. He is also responsible for providing troubleshooting assistance to manufacturing locations and their process technology licensees. Prior to his present position, Mr. Craddock was employed with FMC Corporation in the Maintenance Engineering Department.

Mr. Craddock has a B.S. degree 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.



**Micheal T. (Todd) Stevens** is a Reliability Engineer for BP Amoco, at the Texas City Refinery. His responsibilities include troubleshooting, repair and developing long-term solutions to rotating equipment problems in three fluid catalytic cracking units. 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.



**Juan A. Suarez** is with Union Carbide Corporation, in South Charleston, West Virginia.

## DISCUSSION GROUP 11

on

### LARGE MOTORS

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**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.

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**James H. Hudson, Coordinator**, is Consultant for A-C Compressor Corporation, in Appleton, Wisconsin. He began his career with Allis Chalmers Corporation in 1965 and served in many capacities. In 1985, A-C Compressor Corporation purchased the Compressor Division from Allis Chalmers, and he became Manager of Engineering. He assumed his current position in 1987.

Mr. Hudson graduated with a BSME from Newark College of Engineering (1965). He has been a Task Force member on the Fourth, Fifth, and Sixth Editions of the API 617 Specification for Centrifugal Compressors, the API Task Forces on Quality Improvement, Rotordynamics, and 671 for Couplings. He presently is a member of the API 617 Seventh Edition Task Force and the API 684 Second Edition Task Force and has published papers on torsional vibration and lateral vibration. Mr. Hudson is a registered Professional Engineer in the State of Wisconsin and holds two United States patents.

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**Dean H. Jacobson** is an Engineering Associate with Imperial Oil Limited, in Toronto, Ontario, Canada. He began his career with Imperial Oil, in 1975, at their Agricultural Chemicals Complex at Redwater, Alberta. At the Redwater Plant, he provided technical/maintenance support as well as participating in a major plant expansion.

Mr. Jacobson has taken assignments within Exxon Chemical, in Florham Park, New Jersey; Baytown, Texas; and Baton Rouge, Louisiana. During these assignments, he worked on a broad range of machinery activities including machinery specification, design reviews, maintenance, operation and reliability optimization, and troubleshooting. In his current position, he provides a full range of machinery consulting to Imperial Oil refining and chemical operations.

Mr. Jacobson received a B.S. degree (Mechanical Engineering, 1975) from the University of Alberta, Edmonton. He is a member of ASM and a registered Professional Engineer in the Province of Alberta.

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**Jim Kelley** is with Rockwell Automation in Rock Hill, South Carolina. He has 26 years' experience in the field of electric motors. For the last 22 years, he has been employed with Reliance Electric in various positions, primarily related to field service, product support engineering, and predictive technologies. For the past six years, Mr. Kelley has worked exclusively with DuPont and Conoco as a "dedicated consultant" supporting motor related activities. His product experience ranges from fractional horsepower to very large horsepower electric motors, both AC as well as DC.

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**John M. (Greg) Young** is a Senior Mechanical Design Engineer with GE Large Motors, in Peterborough, Ontario, Canada. General Electric has employed him for 25 years including 20 years in the design of rotating electric machinery. Most recently, Mr. Young has specialized in large and unusual applications such as a short circuit generator for fuse testing, propulsion motors for cruise liners, and main drive motors for steel rolling mills. These designs required novel approaches to machine design and the use of advanced analytical tools for both dynamic and static calculations. In addition, he has a broad experience in supporting customers in the resolution of onsite issues with large rotating electric machinery.

Mr. Young received a B.Eng. degree (Mechanical) from McGill University, Canada. He is a registered Professional Engineer in the Province of Ontario.

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**DISCUSSION GROUP 12**  
**on**  
**RECIPROCATING COMPRESSORS**

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**S. Paul Mohan, Coordinator**, is a Staff Transmission 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.

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**Fred R. Szenasi, Coordinator**, is the President and Manager of Engineering at Engineering Dynamics, Inc., in San Antonio, Texas. In his career he has specialized in assessing the reliability of industrial machinery. His experience in rotordynamics includes the analysis of lateral and torsional vibration response of turbomachinery, analysis of rotor instabilities, balancing turbines and compressors, prediction of vibrational displacement, stress, and methods of failure detection.

Mr. Szenasi has presented technical papers, a tutorial, and hosted discussion groups for the Turbomachinery Symposium and the International Pump Users Symposium. He is a member of the Turbomachinery Symposium Advisory Committee.

Mr. Szenasi has a BSME degree from Texas Tech University and an MSME degree from the University of Colorado. He is a registered Professional Engineer in the State of Texas, and a member of ASME and the Vibration Institute.

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**Kenneth E. (Ken) Atkins** is a Senior Staff Engineer with Engineering Dynamics Inc., in San Antonio, Texas. He has extensive experience in the design and troubleshooting of a wide variety of mechanical systems involving both turbomachinery and reciprocating machinery vibration problems. Mr. Atkins was a Research Engineer with Southwest Research Institute from 1978 to 1981 and a Machinery Engineer with Exxon Chemical Americas from 1981 to 1982. In 1982, he cofounded Engineering Dynamics Inc. He has authored several technical papers in the areas of rotordynamics, reciprocating machinery, piping, and structural dynamics. He has lectured frequently at the International Pump Users and Turbomachinery Symposia with tutorials and short courses on these subjects.

Mr. Atkins received a B.S. degree (Engineering Science, 1978) from Trinity University. He is a member of ASME and is a registered Professional Engineer in the State of Texas.

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**Kelly M. Fort** is a Senior Mechanical Specialist with The Dow Chemical Company, Dow Design and Construction Division, in Houston, Texas. His responsibilities since joining Dow (1985) have been in piping design and stress analysis, mechanical lead for capital project teams, and currently, for the last eight years, in the rotating equipment group for the Mechanical Design Section. Current duties include specifications, technical support, equipment testing, and field support.

Mr. Fort has a B.S. degree (Mechanical Engineering) from Lamar University (1985). He is a member of ASME and is a registered Professional Engineer in the State of Texas.

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**Alan S. Pyle** is a Staff Engineer in the Mechanical Equipment Department of Shell Chemical America's Deer Park Chemical Plant, in Deer Park, Texas. He provides rotating equipment support to the olefins units. Prior to his current assignment, he was a Maintenance Engineer for two and one half years with Tejas Energy LLC, an affiliate of Shell, providing rotating equipment and maintenance effectiveness support to gas processing/NGL extraction plants, gas pipeline compression, and injection facilities in Texas and Louisiana. He also was a member of the gas plant SAP implementation team. Prior to that assignment, he was at Shell's Deer Park Refinery and Chemical Plant for 20+ years in various positions as a rotating equipment specialist.

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

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**DISCUSSION GROUP 13**  
**on**  
**LARGE STEAM TURBINES**

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**Merwin W. Jones, Coordinator**, is Senior Engineering Consultant for Thermal Cycles at PEPCO 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 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.

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**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.

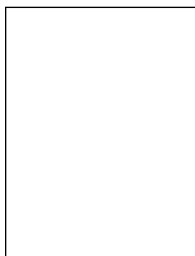
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**C. (Chuck) D'Angelo III** is a Senior Engineer and Discipline Leader for Mechanical Equipment at Shell Chemical Company's Deer Park, Texas Plant. He joined what is now Shell's Westhollow Technology Center in 1991 and transferred to the Deer Park Plant in 1993. Dr. D'Angelo has lead teams in detection of underground coal mines, development of a corporate specification for mechanical seals, 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 III 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.

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**John Rankin** is with Seimens-Westinghouse, in Houston, Texas.

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**DISCUSSION GROUP 14**  
**on**  
**MAINTENANCE MANAGEMENT**

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**Merwin W. Jones, Coordinator**, is Senior Engineering Consultant for Thermal Cycles at PEPCO 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 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.

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**John B. Cary, Coordinator**, is Vice President of Advanced Reliability Technologies, LLC, in Walnut Creek, 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, Vibration Institute, and Pacific Energy Association.

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**Robert J. (Bob) Amon** is currently a Principal Maintenance Engineer at Valero Refining Company at their Benicia, California, refinery. His current responsibilities include maintenance engineering and technical support for rotating equipment, along with preventive and predictive maintenance programs. Since joining Valero Refining in 1992, Mr. Amon has had various assignments including managing the instrumentation and electrical departments, utility and cogeneration plants, and involved with establishing the process safety management requirements (OSHA 1019.119). Prior to joining Valero, he had been with Tosco Refining and Mobil Oil.

Mr. Amon received his BSME degree from the University of California, Santa Barbara (1981), Engineering Management/Construction Certificate from the University of California, Los Angeles (1983), and an MBA from the University of Houston (1995).

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**Allan Mathis** is the Maintenance Manager over the Acetylene and Utilities Department at Rohm and Haas, Deer Park, Texas. He oversees all maintenance work (routine and turnaround), purchasing, and mechanical engineering. His efforts are concentrated on increased reliability and mechanical integrity. Mr. Mathis has been with Rohm and Haas for three years. Previously, he held a variety of positions at Amoco Oil Company, Texas City. The last seven years were concentrated in the area of rotating equipment. He held the position of rotating equipment supervisor handling all aspects of rotating equipment, including rotordynamics.

Mr. Mathis has a B.S. degree (Mechanical Engineering) from the University of Texas at Arlington. He has also authored papers in the area of vibration analysis and rotordynamics.

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**Donald K. (Don) Sawatzky** is a Rotating Equipment Technologist managing maintenance of turbo and electric driven compressor packages for TransCanada Pipelines, in Calgary, Alberta, Canada. He has worked at TransCanada for 13 years, in both operations and maintenance. In the past five years, he has been involved in reevaluating the maintenance practices at TransCanada with the focus on reduction in life-cycle cost.

Mr. Sawatzky is a Certified Technologist with Journeyman status in both Electrical and Instrumentation from the Northern Alberta Institute of Technology.

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## DISCUSSION GROUP 15

on

### MAGNETIC BEARINGS

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**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.

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**Thomas J. (Tom) Cerwinski, Coordinator**, is Manager of the Asset Support Services Division at the BP Amoco Refinery, in Whiting, Indiana. His responsibilities include refinery instrumentation, electrical and machinery repair, and mobile equipment operation and maintenance training. He is also responsible for the refinery's project engineering group.

He formerly served as Manager of Maintenance Services at BP Amoco's Texas City, Texas, refinery and Manager of Maintenance and Engineering at BP Amoco's Casper, Wyoming, refinery. Other assignments included serving as Operations Superintendent of Oil Movements Control Center, Oil Movements Superintendent of Maintenance and Engineering, Rotating Equipment Consultant, and Rotating Equipment Engineer at the Texas City refinery, and Rotating Equipment Engineer at BP Amoco's general office in Chicago.

Mr. Cerwinski graduated from Iowa State University (1976) with a B.S. degree (Mechanical Engineering). He is a member of Tau Beta Pi and Pi Tau Sigma.

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**Doug A. Leonard** is the Machinery Section Supervisor at the Exxon Baytown Olefins Plant, in Baytown, Texas. In this role, he provides direction for the maintenance and operation of machinery at the site. During his 10 years with Exxon, he has been involved in the selection, construction, startup, operation, and maintenance of pumps, compressors, steam turbines, and gas turbines.

Mr. Leonard received his BSME from the University of Wisconsin. He is a member of ASME.

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**Michael K. Swann** is Vice President and General Manager of Federal Mogul RPB Inc., in Mystic, Connecticut, the North American subsidiary of Federal Mogul RPB. Federal Mogul RPB Inc. performs application engineering of fluid film bearings and detailed design, engineering, and manufacturing of magnetic bearing systems for turbomachinery. Mr. Swann was formerly with Magnetic Bearings, Inc., and has also held positions in the power and process industries with Proto-Power Corporation and Union Carbide Corporation, respectively.

Mr. Swann received his B.S. degree (Mechanical Engineering) from the University of Connecticut and his M.S. degree (Mechanical Engineering) from Northeastern University. He is a registered Professional Engineer in the State of New York.

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**DISCUSSION GROUP 16**  
**on**  
**SCREW COMPRESSORS**

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**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.

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**James H. Hudson, Coordinator**, is Consultant for A-C Compressor Corporation, in Appleton, Wisconsin. He began his career with Allis Chalmers Corporation in 1965 and served in many capacities. In 1985, A-C Compressor Corporation purchased the Compressor Division from Allis Chalmers, and he became Manager of Engineering. He assumed his current position in 1987.

Mr. Hudson graduated with a BSME from Newark College of Engineering (1965). He has been a Task Force member on the Fourth, Fifth, and Sixth Editions of the API 617 Specification for Centrifugal Compressors, the API Task Forces on Quality Improvement, Rotordynamics, and 671 for Couplings. He presently is a member of the API 617 Seventh Edition Task Force and the API 684 Second Edition Task Force and has published papers on torsional vibration and lateral vibration. Mr. Hudson is a registered Professional Engineer in the State of Wisconsin and holds two United States patents.

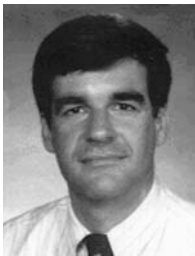
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**James J. (Jim) Kaufman** is a Senior Project Manager with A-C Compressor Corporation, in Appleton, Wisconsin. He joined A-C Compressor in 1989 as a Design/Project Engineer in Oil Free Screw Compressors and has concentrated in the Projects area. Since that time, Mr. Kaufman has served in various positions of increasing responsibility in the Oil Free Screw Compressor Operations. He is currently responsible for the execution of customer contracts, and inhouse development projects including full responsibility for technical and commercial compliance with contract and project requirements. This includes overseeing the detail design of compressors and compressor lubrication, sealing, monitoring, and control systems. He has extensive experience in the support systems associated with operation of oil free screw compressors.

Mr. Kaufman graduated from the University of Wisconsin-Stout with a B.S. degree (Industrial Technology, 1984).

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**Joseph W. Pillis** is Global Products Manager for Screw Compressors with the Refrigeration Division of York International, in Waynesboro, Pennsylvania. He has worked in screw compressor design, application, and service for 20 years with Frick Company and as a Fuel Injection Test Engineer for four years with Mack Trucks. Mr. Pillis has published a variety of technical papers for ASHRAE, IAR, IIR, and NIST and currently serves on technical committees for ASHRAE and IAR. He holds numerous U.S. and international patents in screw compressor technology.

Mr. Pillis has a B.S. degree (Mechanical Engineering, 1977) from Virginia Polytechnic Institute and State University. He is a registered Professional Engineer in the States of Maryland and New Jersey.

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**Miroslav (Mike) Rohacek** is a Senior Consultant in DuPont Engineering, Rotating Machinery Group, in Wilmington, Delaware. He joined DuPont in 1973. As a Project Engineer, he provided compression equipment for domestic and international projects and worked on solutions for turbomachinery problems. In his current position as a Senior Consultant, he is a corporate resource for positive displacement compressors and vacuum pumps and continues to work on centrifugal compressor applications.

Mr. Rohacek is a registered Professional Engineer in the State of Delaware and member of ASME. He is active in the American Petroleum Institute, where he is involved in the developing and updating of international turbomachinery standards.

Mr. Rohacek has an M.S. degree (Mechanical Engineering) from Technical University Brno, Czechoslovakia.

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