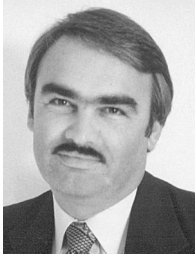


**DISCUSSION GROUP 1**  
**on**  
**CENTRIFUGAL PUMP OPERATION, MAINTENANCE, AND RELIABILITY**

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**John W. Silcott, Coordinator**, is an Engineering Associate with Celanese Ltd. working in the corporate Center of Excellence for rotating equipment and is located in Houston, Texas. His primary responsibilities are rotating equipment reliability and technical support, to include project review and support, consulting, problem solving, vibration analysis, lubrication, predictive/preventive maintenance programs and Best Practices. He worked for Dow Chemical from 1970 to 1974 and joined Celanese in 1974 where he has worked in technical and supervisory roles associated with rotating equipment.

Mr. Silcott received a B.S. degree (Mechanical Engineering, 1970) from New Mexico State University. He is a member of the Vibration Institute, ASME, Chairperson of the Advisory Committee for the Industrial Maintenance Technology program at Texas State Technical College, and a member of the International Pump Users Symposium Advisory Committee since 1987.

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**Kerry F. Gunn, Coordinator**, is currently a Rotating Equipment Technologist at Sterling Chemicals, Inc., in Texas City, Texas. He is involved in technical support for machinery repair; troubleshooting of rotating equipment; and design, selection, and installation of new machinery. Prior to his current position, Mr. Gunn worked for five years at Quantum Chemicals Houston Plant as an Area Maintenance Engineer and Project Engineer. Previously, Mr. Gunn was a Senior Research Engineer at Exxon Research and Engineering for nine years. He participated in design, construction, and operation of synthetic fuels pilot plants.

Mr. Gunn received a B.S. degree (Mechanical Engineering, 1975) from Oklahoma University and an M.S. degree (Mechanical Engineering, 1977) from Purdue University. He is a member of the Vibration Institute and ASME.

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**Martin T. Bowling** is a Rotating Equipment Engineer in the Reliability Group at BP Amoco Chemicals, in Alvin, Texas. He has held a variety of positions at BP Amoco in reliability, maintenance, and project engineering, and has worked in the Texas City and Salt Lake City Refineries. His primary focus in these positions has been optimizing pump and compressor seal performance, troubleshooting equipment problems, vibration analysis, lube oil analysis, and improving equipment performance and reliability through improved operations.

Mr. Bowling received a B.S. degree (Mechanical Engineering, 1989) from Texas A&M University and a B.S. degree (Mechanical Technology, 1985) from the University of Houston.

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**Kenneth R. (Ken) Burkhardt** is a Pump Consultant with the DuPont Company, in Wilmington, Delaware, where he provides pump, mechanical seal, and pumping system technical support throughout DuPont. Prior to his current position, Mr. Burkhardt held manufacturing site positions of Site Maintenance Technology Leader, Mechanical/Reliability Team Leader, Site Rotating Equipment Engineer, Maintenance Engineer, and Project Engineer.

Mr. Burkhardt serves as Vice Chair of ASME Standards Committee B73 (Chemical Standard Pumps) and participates on PIP RESP73H/V revision task force. He graduated from Virginia Polytechnic Institute with a BSME degree (1981). Mr. Burkhardt is a member of ASME and is a registered Professional Engineer in the State of Alabama.

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**James (Jim) Lobach** is a Chief Developmental Engineer with the Chempump Division of Crane Pumps and Systems. He has had extensive experience in the design and application of high speed rotating machinery. For the past five years, he has been closely involved with can motor pump design and innovations, including low specific speed pumping, pump hydraulics and performance, and monitoring equipment. He has provided field service engineering in the chemical and petrochemical industries for the past 15 years.

Mr. Lobach received a B.S. degree (Mechanical Engineering) from the University of Colorado (1969). He is a registered Professional Engineer in the State of Colorado.

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**Watson Tomlinson** is presently a Pump Improvement Engineer in the Flow Solutions Division of Flowserve, in Mt. Holly, North Carolina. He joined Flowserve/IDP in the fall of 1999 after more than 17 years with Duke Power Company. His present responsibilities include engineering field support for problem pumps at commercial facilities in the southeast United States and nuclear facilities throughout the U.S. Prior to IDP, Mr. Tomlinson was responsible for coordinating the nuclear pump program for Duke Power Company. His experience also included maintenance and troubleshooting of rotating equipment, where he worked in both nuclear and fossil stations.

Mr. Tomlinson has a B.S. degree (Mechanical Engineering, 1982) from North Carolina State University and is a registered Professional Engineer in the State of North Carolina.

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**Bruce Weathersby** is with KOSA, in Salisbury, North Carolina.

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**DISCUSSION GROUP 2**  
**on**  
**MECHANICAL SEALS**

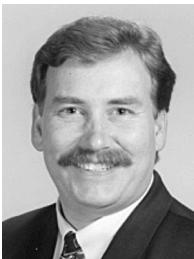
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**Joseph M. Thorp, Coordinator**, is an Engineering Specialist within the Technical Services Department of Aramco Services Company (ASC), in Houston, Texas. He has provided technical support for Saudi Arabian Oil Company (Saudi Aramco) projects in Europe and North America, along with supporting field activities during interim assignments in Saudi Arabia as part of the Consulting Services Department. Mr. Thorp is Saudi Aramco's designated representative to the American Petroleum Institute Subcommittee on Mechanical Equipment that includes Vice Chairmanship of API 610 (Centrifugal Pump) and Chairmanship of API 682 (Seals). He is the API mechanical equipment representative to the International Standards Coordinating Committee who interfaces with ISO, headquartered in Europe. Prior to joining ASC, he worked with Phillips Petroleum Company.

Mr. Thorp holds a B.S. degree (Mechanical Engineering) from Michigan State University and an MBA from the University of St. Thomas. Mr. Thorp is a registered Professional Engineer in the State of Texas.

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**Roger S. Turley, Coordinator**, is the Director of Product Management at Flowserve Corporation, Flowserve Pump Division, and is based in Dayton, Ohio. He has 16 years' experience in the pump industry.

Mr. Turley received B.S. and M.S. degrees from Brigham Young University. He has received patents for innovations in pump design and has published several articles in leading industry publications.

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## DISCUSSION GROUP 3

on

### BEARINGS AND LUBRICATION

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**Lev Nelik, Coordinator**, is President of Pumping Machinery, LLC, in Norcross, Georgia. He has more than 25 years of engineering, manufacturing, management, sales, and field experience in the pump industry. He has previously worked with Ingersoll-Rand, Goulds Pump, Liquiflo, and Roper Pump. Dr. Nelik is an International Pump Users Symposium Advisory Committee member, a former Associate Technical Editor of the *Journal of Fluids Engineering*, and as Associate Editor of *Water and Waste Digest*. He is a full member of ASME and APICS certified.

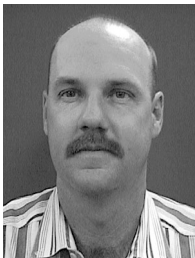
Dr. Nelik is a graduate of Lehigh University with an M.S. degree (Manufacturing Systems) and a Ph.D. degree (Mechanical Engineering). He is a registered Professional Engineer, and he has published over 50 papers, including a book, *Centrifugal and Rotary Pumps: Fundamentals with Applications*, and a chapter on pumps for the *Encyclopedia of Chemical Technology*. He has traveled extensively and consulted worldwide on pumps reliability, design, and pump/system analysis.

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**Dennis G. Bowman, Coordinator**, is a Consulting Engineer with Alfred Conhagen, Inc., in La Marque, Texas, a manufacturer and refurbisher of large rotating equipment, including pumps, serving the power utility and oil refining and pipeline industries. He has 29 years of industrial experience in centrifugal pump design, analysis, and troubleshooting. Mr. Bowman has designed pumps for nearly all safety-related services in PWR type nuclear power stations and performed the only full scale, full speed, full load flow visualization study of cavitation (8000 bhp per stage) boiler feed pumps.

Mr. Bowman has a BSME degree from California State University, Pomona, and is a registered Professional Engineer in the State of California. He has authored technical papers for ASME's Fluid Machinery Division and Texas A&M's International Pump Users Symposium, and has been granted patents for unique pressure boundary joint designs and fabrication techniques.

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**Chesley Brown** is Senior Engineer in the System Engineering Department for TXU Energy, Comanche Peak Steam Electric Station, in Glen Rose, Texas. CPSES is a two unit, 1150 megawatt (each), nuclear generation facility. His primary duties include coordination of both the Lubricant Analysis Program and the Lubricant Control Program, with collateral duties in vibration analysis, acoustic emission analysis, thermography, and bearing failure analysis. He joined TU Energy in 1987 as an Associate Engineer in the Maintenance Engineering Department.

Mr. Brown received a B.S. degree in Agricultural Engineering and a B.S. degree in Mechanical Engineering from Texas A&M University. He is an active member of STLE and ICML.

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**Joseph R. Cervassi** is a Staff Engineer with Exxon Chemical Company, in Baytown, Texas. He is presently assigned to Major Projects where he is involved in specification and NPQC of both general and special purpose machinery. Until recently, he was the Section Supervisor of the Machinery Section in Exxon's Baytown Olefins plant.

Since joining Exxon in 1978, he has had several assignments in engineering with Exxon Enterprise, Exxon Chemical Bayway, and Aramco. Prior to joining Exxon, he worked for Drew Chemical Company on industrial water and fuel additives.

Mr. Cervassi received his B.A. degree (Chemistry) from Boston University, and an M.S. degree (Chemical Engineering) from New Jersey Institute of Technology.

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**Don Doan** is with TXU Energy, in Glen Rose, Texas.

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**Donald C. (Don) Ehlert** has been employed with Lubrication Systems Company, in Houston, Texas, for the past 25 years. His present position is that of Sales Manager. Mr. Ehlert has been involved with lubrication equipment and system technology for a total of 34 years. His present responsibilities include product sales in North America, along with being a key account manager to several major clients.

Mr. Ehlert has field maintenance and system installation experience that spans a large number of industries. He has served as a technical sales representative and has system experience that includes troubleshooting of aviation flight control systems for the U.S. Navy, research and development of oil field land and subsea wellhead controls, and blowout preventer systems.

Mr. Ehlert has authored several articles on the practical use and justification of lubrication systems, and presides over training classes and lubrication workshops for end users.

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**Lance Erickson** is with Infineum USA, LP, in Linden, New Jersey.



**Donald H. Hastie** is a Senior Project Engineer for the Torrington Company, Fafnir Bearings Division, in Torrington, Connecticut. He is responsible for design and application of ABEC 1 and ABEC 3 angular contact, double row, and radial ball bearings. He has worked for Torrington's Fafnir Division for 12 years. Prior to joining Fafnir, Mr. Hastie worked in technical positions for Barden, Barry Controls, and Armstrong Rubber.

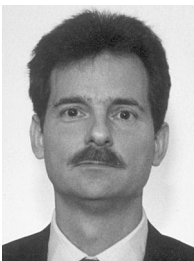
Mr. Hastie received his B.S. degree (Mechanical Engineering, 1979) from Northeastern University.



**Michael Polk** is the founder and President of Reliability Associates, a turbomachinery consulting firm, in Slidell, Louisiana. He retired from Mobil Oil's (formerly Tenneco) Chalmette Refinery in 1996, after 16 years of service as a Staff Reliability Specialist and Machine Shop Supervisor.

Mr. Polk has more than 30 years of experience with rotating equipment. He has had broad experience in the installation and repair of rotating equipment in oil production facilities, petrochemical plants, and other industries. Previous employers include the Elliott Company, Brown and Root, Inc., Melamine Chemicals, Bernard and Burke, and Chevron, USA.

Mr. Polk has written for several technical publications, and is affiliated with the Vibration Institute (past officer) and Gulf South Compression Conference. He has a technical degree from Nashville Auto-Diesel College.



**Patrick Stepchinski** is a Machinery Engineer for GDS Engineers, Inc., in Baytown, Texas. His responsibilities include machinery bid/purchase specification writing and analysis of machinery problems for petrochemical clients in the Houston/Texas City area.

Mr. Stepchinski was previously employed by Exxon Company, USA, at the Baytown Refinery for 16 years. His assignments included: oil mist lubrication system design and troubleshooting; vibration and failure analysis of pumps, motors, fans, compressors, gearboxes, steam turbines, and gas turbines; specification writing and bid evaluation of new machinery; commissioning of new pumps, motors, compressors, steam turbines, and gas turbines.

Mr. Stepchinski graduated with a B.S. degree (Mechanical Engineering, 1976) from the University of Houston. He is a member of ASME, has Vibration Specialist Level II certification from the Vibration Institute, and is a registered Professional Engineer in the State of Texas.

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**Steven W. Young** is with MRC Bearing Services, in Kulpville, Pennsylvania.

**DISCUSSION GROUP 4**  
**on**  
**COUPLINGS, ALIGNMENT, AND PIPESTRAIN**

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**Michael W. Johnson, Coordinator**, is a Pipe Stress Engineer in the Reliability Engineering Department of Reliant Resources, in Houston, Texas. Mr. Johnson graduated from the University of North Dakota (1980) and is a registered Professional Engineer in the State of Texas.



**John B. Stokes, Coordinator**, is a Principal Machinery Engineer for Lyondell-Citgo Refining LP, in Houston, Texas. In his current assignment, he provides technical support for the design, installation, operation, and maintenance of the machinery in the FCCU and Oil Movements areas.

Mr. Stokes received a BSME from Louisiana Tech University in 1978. He is a member of ASME and is a registered Professional Engineer in the States of Louisiana and Texas.



**Duane V. Byerly** is a Senior Engineer for Rexnord Industries at their Addax Composites Operation, in Lincoln, Nebraska. His past experience include positions in management, applications, and new product engineering at Rexnord Industries over the last 15 years. Mr. Byerly was instrumental in developing the composite cooling tower coupling and furthered its usage in the long span vertical pumping industry as well as many other industrial applications. He also holds two US Patents related to couplings.

Mr. Byerly received his B.S. and M.S. degrees (Mechanical Engineering) from the University of Nebraska at Lincoln and is a registered Professional Engineer in the State of Nebraska.



**David W. (Dave) Diehl** manages training and marketing at COADE Engineering Software, in Houston, Texas. Prior to joining COADE in 1986, he developed his skills in pipe stress analysis by providing technical support to users of AUTOFLEX and DYNAFLEX. At COADE, Mr. Diehl brings his 25 years of experience in pipe stress analysis by training CAESAR II users around the world and specifying and testing program improvements to COADE's piping and pressure vessel analysis programs. He authored an article entitled "Improve Pump Load Evaluation," published in the April 1998 issue of *Hydrocarbon Processing*.

Mr. Diehl is a registered Professional Engineer in the State of Texas, sits on the Board of Directors of the Society of Piping Engineers and Designers (SPED), and is a member of ASME B31.3 Subgroup on Activities.



**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.



**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 5**  
**on**  
**VERTICAL PUMP PROBLEMS AND SOLUTIONS**

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**Herman A.J. Greutink, Coordinator**, formerly Vice President and Technical Director, is now Consultant to Johnston Pump Company, in Brookshire, Texas. Mr. Greutink has demonstrated his engineering expertise on large vertical pump projects worldwide, and he is internationally acknowledged as one of the pump industry's long standing experts on vertical pump design, testing, and application. He frequently conducts pump seminars for the engineering personnel of customers and for consulting and construction firms throughout the world.

He was educated at the Mechanical Engineering College in Enschede, The Netherlands. From 1951-58, Mr. Greutink was Project Engineer for Aramco, Oil Handling Facilities, Dhahran, Saudi Arabia. Since 1958, he has been in engineering management at Johnston Pump Company. He is a member of the Hydraulic Institute and ASME.

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**John J. Healy** is currently employed by Johnston Pump Company, in Hampton, Virginia. He was previously with ITT Goulds and a Mid-Atlantic Independent repair facility. The majority of his career has been spent in the aftermarket, working with all vertical OEM equipment. Mr. Healy has been involved in the repair, upgrade, and overhaul of vertical turbine pumps for the last 20 years. His experience includes root cause analysis of vertical pump mechanical and hydraulic problems for a variety of industries, and in circulating water, condensate, heater drain, and general service pumps for the power industry, as well as vertical API pumps for the refining and petrochemical industries.

Mr. Healy is a graduate of the University of Delaware, with continuing education in vibration analysis, hydraulics, and balancing.

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**Philip Hennessy** is currently a Senior Engineer with Exelon Nuclear at the Peach Bottom Atomic Power Station, in Delta, Pennsylvania. He is a Rotating Equipment Specialist responsible for the reliability of pumps at a nuclear power plant. His duties include equipment reliability, root cause failure analysis, pump upgrades, design packages, and to provide expertise as a pump "consultant" to internal customers for rotating equipment issues at the plant. Mr. Hennessy has previous experience with Flowsolve Sealing Division as a Lead Applications Engineer and Fleetwood Industrial Products, a rotating equipment company, as an Applications Engineer, Sales Engineer, and Project Manager, for a total of 10 years in the rotating equipment industry.

Mr. Hennessy received his BSME degree from Drexel University, and he recently presented a case study at the Twentieth International Pump Users Symposium.

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**DISCUSSION GROUP 6**  
**on**  
**PUMP VIBRATION MONITORING AND ANALYSIS**

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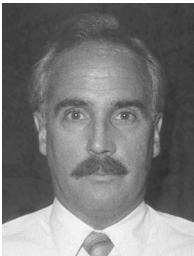
**William D. Marscher, Coordinator**, is President and Technical Director for Mechanical Solutions, Inc., in Parsippany, New Jersey. He has held senior positions at Dresser Pump, Pratt & Whitney, and Concepts NREC, and founded Mechanical Solutions Inc. in 1996. He has spent his career of 33 years involved in the design, development, and troubleshooting of pumps and all kinds of turbomachinery. His capabilities and experience include finite element analysis, rotordynamic analysis, experimental modal analysis, vibration testing, predictive maintenance, and the mechanical design of fluid systems. His machinery vibration test procedures won the Dresser Creativity Award, and his rotor bearing rub analysis method won the ASLE Hodson Award. He has authored and coauthored chapters for seven handbooks, and is coauthor of the book, *Centrifugal Pumps*, published by Oxford University Press.

Mr. Marscher has BSME and MSME degrees from Cornell University, where he was a NASA Fellow, and an M.S. degree from RPI.

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**Paul Boyadjis** is with Mechanical Solutions, Inc., in Parsippany, New Jersey.

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**Patrick J. Gonzales** is presently Senior Vibration Specialist for the Pump Division of Flowserve Corporation, in Vernon, California. He is responsible for establishing generic rotordynamic and structural signatures for new designs, and for furnishing technical assistance in diagnosing rotating equipment vibration problems.

Mr. Gonzales has been associated with the Pump Division for 36 years in the areas of design, testing, and field problems involving vibration, fluid pulsation, and noise. He was directly involved in the development of the Byron Jackson feedpump expert diagnostic software program, which diagnoses vibration and flow related problems on horizontal type feed pumps.

Mr. Gonzales graduated from East Los Angeles College with an A.A. degree (Engineering Technology, 1966).

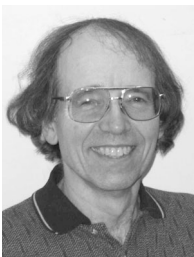
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**Jerome A. (Jerry) Lorenc** is Senior Research Engineer in the Industrial Pump Group of ITT Industries, in Seneca Falls, New York. He has been with ITT since 1976, serving as Instrumentation Engineer, Supervisor of the R&D Lab, and his present position. His responsibilities include design of pump test facilities, managing new technology projects, and engineering assistance to sales and field service. Mr. Lorenc has been involved in vibration, pressure pulsation, and condition analysis of pumps for the past 25 years. He has published five papers and has a several centrifugal pump related U.S. patents.

Mr. Lorenc received a B.S. degree (Aircraft Maintenance Engineering, 1970) from Parks College of Saint Louis University, completed a full year of graduate work in Mechanical Engineering at Rochester Institute of Technology (1976), and is certified Vibration Specialist III (1996). He is a member of ISA and the Vibration Institute.

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**Thomas P. (Tom) Will, Jr.**, is a Senior Staff Engineer at the ConocoPhillips Bayway Refinery, in Linden, New Jersey. He is responsible for maintenance support, troubleshooting, and reliability improvement of rotating equipment from small pumps to major turbomachinery. Prior positions include Executive Energy Consultant with Conservation Services Corporation of Denville, New Jersey (1986 to 1987), and Senior Staff Engineer with Exxon Research & Engineering Company in Florham Park, New Jersey (1970 to 1986). With CSC, Mr. Will had responsibility for energy audits and application of energy conservation equipment to motor-driven machinery in commercial, institutional, and industrial facilities. With Exxon, he had responsibility for research, design, selection, commissioning, and operation of process machinery with long-term field assignments in the United States, Venezuela, Libya, and Thailand. Mr. Will is a member of ASME, AEE, editorial quality judge for *Plant Engineering* magazine, and a registered Professional Engineer in the State of New Jersey.

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**DISCUSSION GROUP 7**  
**on**  
**SEALLESS PUMPS**

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**William J. (Bill) Mabe, Coordinator**, is the Director of Technology Development and Quality Assurance for Sundyne Corporation, in Arvada, Colorado. He is primarily responsible for coordinating technology and product development for Sundyne's business units. Mr. Mabe joined Sundyne in 1974 as a Senior Engineer involved in high speed centrifugal pump design. Previous turbomachinery experience includes six years at Rocketdyne, Liquid Rocket Division of Rockwell International, where he was a member of the technical staff responsible for the analysis and design of the space shuttle turbo pumps. He has several patents related to pumping equipment.

Mr. Mabe holds a B.S. degree (Mechanical Engineering) from the University of Missouri at Rolla and a Masters of Business Administration and Technology Management from the University of Phoenix. He also serves on the corporate advisory board for the Colorado School of Mines.

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**Ronald B. (Ron) Adams, Coordinator**, is Global Portfolio Manager, HPI, with Sulzer Pumps (US) Inc., in Houston, Texas. He has been with Sulzer since 1991 and has held various sales management and alliance management positions with them. Previously, he was with Ingersoll-Rand Pumps from 1973 to 1991, where he held various positions in applications, sales, and marketing of centrifugal, reciprocating, and magdrive pumps.

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**DISCUSSION GROUP 8**  
**on**  
**PIPELINE APPLICATIONS**

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**Bruce Weber, Coordinator**, is the Operations Manager for Best Equipment, in Houston, Texas. As Operations Manager, his duties include supervision of the pump repair facility, consulting with clients concerning pumping systems, and pump troubleshooting. Other areas include failure analysis, pump modifications, bearings, high pressure mechanical seals, and lubrication systems. Prior to joining Best Equipment, Mr. Weber was associated with Koch Hydrocarbon, in Medford, Oklahoma, for 18 years. His responsibility as Maintenance Supervisor included 10,000 miles of pipelines that employed 2300 pumps. He also served as a consultant for Koch's four light hydrocarbon processing plants.

Mr. Weber is currently enrolled at the University of Oklahoma, working toward a B.S. degree.

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**Ronald B. (Ron) Adams, Coordinator**, is Global Portfolio Manager, HPI, with Sulzer Pumps (US) Inc., in Houston, Texas. He has been with Sulzer since 1991 and has held various sales management and alliance management positions with them. Previously, he was with Ingersoll-Rand Pumps from 1973 to 1991, where he held various positions in applications, sales, and marketing of centrifugal, reciprocating, and magdrive pumps.



**Gary Daileda** is currently Director of Operations Services for TEPPCO, in Houston, Texas. Since joining TEPPCO in 1982, he has held a variety of positions in engineering, operations, maintenance, and business development. He is currently responsible for pipeline control, measurement, material control, and preventive/predictive maintenance for TEPPCO. He has been involved with numerous capacity expansion projects with TEPPCO, encompassing the hydraulic rerate of existing centrifugal pumps as well as the sizing and selection of new pumping equipment. As District Superintendent for Operations and Maintenance from mid-1989 through mid-1991, he was involved on a daily basis with field technicians responsible for maintenance and repairs to rotating equipment.

Mr. Daileda received a B.Sc. degree (Water Resources Engineering Technology) from Pennsylvania State University.

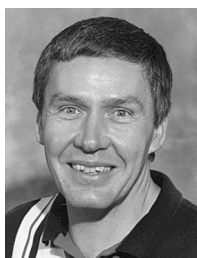
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**Ralph Dickau** is an Engineering Specialist in rotating equipment with Enbridge Pipelines Inc., in Edmonton, Alberta, Canada. Mr. Dickau is responsible for the specification and selection of new pumps and replacement of existing pumps. He provides technical guidelines for the installation and commissioning of these pumps. He is also involved in troubleshooting pump operating problems and other rotating equipment and coordinating repairs. Mr. Dickau has taught centrifugal pump theory, construction, installation, and operation for Enbridge Technology Inc. He was also responsible for their machinery vibration monitoring and analysis program.

Mr. Dickau obtained his B.S. degree (Mechanical Engineering, 1978) from the University of Alberta and is a registered Professional Engineer in the Province of Alberta. He joined the company in 1984 and has worked in project engineering, pipeline hydraulics, field operations, and technical services.

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**William R. (Bill) Litton** is the Pump Initiative Manager with Magellan Midstream Partners, LP, in Tulsa, Oklahoma. He is an experienced professional engineer with 25 years of experience in the petroleum industry. He has ability and experience in mechanical equipment, prime mover economics, power optimization, and pipeline system hydraulics. Mr. Litton also has project engineering ability and experience in handling pipeline expansions, pipeline pump stations, refineries, fractionators, gas and processing facilities and crude oil, refined products, NH<sub>3</sub>, and propane terminals (brine cavern and excavated caverns). He also has experience in maintaining mechanical equipment company-wide to provide reliable and economical service. This includes rerating of pumps and pump modifications to reduce resonant and nonresonant vibration levels.

Mr. Litton has a B.S. degree (Mechanical Engineering, 1979) from Kansas State University and a B.S. degree (Mathematics, 1978) from Emporia State University. He is a registered Professional Engineer in the State of Oklahoma.

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**DISCUSSION GROUP 9**  
**on**  
**POSITIVE DISPLACEMENT PUMPS—MAINTENANCE, OPERATION, RELIABILITY**

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**Lev Nelik, Coordinator**, is President of Pumping Machinery, LLC, in Norcross, Georgia. He has more than 25 years of engineering, manufacturing, management, sales, and field experience in the pump industry. He has previously worked with Ingersoll-Rand, Goulds Pump, Liquiflo, and Roper Pump. Dr. Nelik is an International Pump Users Symposium Advisory Committee member, a former Associate Technical Editor of the *Journal of Fluids Engineering*, and as Associate Editor of *Water and Waste Digest*. He is a full member of ASME and APICS certified.

Dr. Nelik is a graduate of Lehigh University with an M.S. degree (Manufacturing Systems) and a Ph.D. degree (Mechanical Engineering). He is a registered Professional Engineer, and he has published over 50 papers, including a book, *Centrifugal and Rotary Pumps: Fundamentals with Applications*, and a chapter on pumps for the *Encyclopedia of Chemical Technology*. He has traveled extensively and consulted worldwide on pumps reliability, design, and pump/system analysis.

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**James R. (Jim) Brennan** is Projects Manager for IMO Pump, in Monroe, North Carolina. His responsibilities include worldwide marketing and technical support for pumping applications. He has more than 30 years of service with IMO Industries. Engineering manager for five years, Mr. Brennan has spoken at a number of conferences worldwide and has published more than three dozen technical articles and papers.

Mr. Brennan is a 1973 graduate of Drexel University in Philadelphia and a member of the Society of Petroleum Engineers.

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**Terry Hernandez** is the Rotating Equipment Engineer supervisor at Lyondell Chemical, in Channelview, Texas. He supervises technicians responsible for the vibration and lube oil predictive maintenance programs along with the mechanical inspection and quality control on outside machinery repairs. Mr. Hernandez also provides technical machinery support to maintenance and operation personnel, manages turnaround execution on major machinery repair overhauls or upgrades, troubleshoots equipment problems, evaluates equipment repair techniques, generates machinery repair work scope and bid packages, develops maintenance procedures, develops machinery design changes, revises machinery specifications, and installs machinery upgrades. He prepares specifications, evaluates bids, purchases, and installs machinery for project activities.

Mr. Hernandez graduated from McNeese State University with a B.S. degree (Mechanical Engineering, 1974) and has worked since then in turbomachinery installation, maintenance, performance and troubleshooting, vibration analysis and field balancing, and mechanical seals. He is also active in professional development seminars with the ASME South Texas Chapter.

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**Steve A. Larson** is a Professional Engineer at Cat Pumps Corporation, in Blaine, Minnesota. He is responsible for designing and troubleshooting complete water systems. He has worked his way up in the engineering department from the R&D test lab to a lead engineering position.

Mr. Larson graduated (Hydraulics and Pneumatics) from Alexandria Technical College. He then joined Cat Pumps and, at the same time, attended the Institute of Technology at the University of Minnesota. He graduated with a B.S. degree with Honors (Mechanical Engineering). Mr. Larson is a registered Professional Engineer in the State of Minnesota and has been with Cat Pumps for 19 years.

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**Luis Rizo** is the Senior Reliability Engineer with GE Plastics, in Selkirk, New York. He is responsible for plant reliability upgrades and long term service factor improvements. Mr. Rizo provides support in improving the process that yields long-term equipment reliability plantwide as well as support for intraplant issues.

Previous rotating equipment experience includes 10 years of reliability engineering at Exxon, and three years of design, development, and application of pumps at Worthington Pumps. At these positions, Mr. Rizo was involved in all facets of machinery design, testing, installation, and specification of rotating equipment.

Mr. Rizo has a B.S. and an M.S. degree (Mechanical Engineering) from the New Jersey Institute of Technology. He is a member of ASE and was a member of the *Pumps & Systems* Magazine User's Advisory Board.

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**Paul Rose** is presently the Director of Sales, Engineering Projects, for Warren Rupp, Inc., out of Mansfield, Ohio. He has been employed at Warren Rupp for the last five years in a variety of positions relating to product design, applications, and sales. He has experience designing and installing waterflood projects for the oil field, and was responsible for significant design improvements in a high-speed mixer design used in the wastewater treatment industry. Mr. Rose has been involved in the application and sales of a variety of pump designs including canned motor, gear, self-priming centrifugal, mag drive, and progressing cavity prior to his present position. He has presented papers relating to the proper application of progressing cavity drilling motors and the potential for air operated double diaphragm pumps in the chemical process industry.

Mr. Rose has an A.S. degree from Temple Junior College and a B.S. degree (Petroleum Engineering) from Texas A&M University.

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**Andrew Shelton** is Engineering Manager for the Myers/Aplex Industrial Pump Division, part of the Pentair Pump Group, in Ashland, Ohio. He is responsible for the new product design and existing product upgrades for both the Myers and Aplex brand of reciprocating pumps.

Mr. Shelton has a B.S. degree (Mechanical Engineering, 1991) from Texas A&M University.

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## DISCUSSION GROUP 10

on

### APPLICATION AND OPERATIONAL ISSUES IN WATER AND WASTEWATER PLANTS

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**William D. Marscher, Coordinator**, is President and Technical Director for Mechanical Solutions, Inc., in Parsippany, New Jersey. He has held senior positions at Dresser Pump, Pratt & Whitney, and Concepts NREC, and founded Mechanical Solutions Inc. in 1996. He has spent his career of 33 years involved in the design, development, and troubleshooting of pumps and all kinds of turbomachinery. His capabilities and experience include finite element analysis, rotordynamic analysis, experimental modal analysis, vibration testing, predictive maintenance, and the mechanical design of fluid systems. His machinery vibration test procedures won the Dresser Creativity Award, and his rotor bearing rub analysis method won the ASLE Hodson Award. He has authored and coauthored chapters for seven handbooks, and is coauthor of the book, *Centrifugal Pumps*, published by Oxford University Press.

Mr. Marscher has BSME and MSME degrees from Cornell University, where he was a NASA Fellow, and an M.S. degree from RPI.

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**Paul W. Behnke, Coordinator**, is Principal Engineer with Bechtel Power Corporation, in Frederick, Maryland. He is responsible for technical aspects of rotating equipment procurement, installation, startup, and operations. In past positions, he has successfully led a multiplant business unit operations through dramatic growth and business operations restructuring; led the consolidation and restructuring of selected prejoint venture assets; improved customer service, safety, and asset management by aggressively implementing ISO 9001 quality systems and Six Sigma processes; developed new products using concurrent engineering teams and product platform strategies. Mr. Behnke has over 23 years' of rotating equipment engineering experience in the electric power, water resources, oil production, hydrocarbon processing, and general industry market segments.

Mr. Behnke holds a BSME from Rutgers University and an MBA from Lehigh University. He is a registered Professional Engineer in the State of New Jersey and in the Commonwealth of Pennsylvania. He has been awarded two U.S. patents.

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**Richard J. Cronin** is a Senior Engineer for Mechanical Solutions, Inc., in Eldersburg, Maryland. He has more than 15 years of experience in the design, development, analysis, and troubleshooting of rotating equipment. While at Ingersoll-Dresser Pump (Flowserve), he was the lead mechanical design engineer for the development of their line of submersible sewage pumps (MSX) and vertical turbine nonclog pumps (QMN). He received three United States and international patents for work performed on these developments.

Mr. Cronin has a BSME degree from the University of Maryland at College Park, and he is a registered Professional Engineer in the States of Virginia and Maryland.

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**Mehryar Ebrahimi** is with National Institutes of Health, in Bethesda, Maryland.

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**David A. House** is a Principal Engineer for Flowserve Pump Division, in Taneytown, Maryland. He has more than 30 years of experience in the application, design, development, analysis, and troubleshooting of nonclog and water pumping equipment. He has been the principal mechanical design engineer for product enhancements to the Flowserve line of dry pit nonclog pumps, and he has overseen the development of many new sizes of dry pit nonclog pumps (MF and MN) and new sizes of vertical turbine nonclog pumps (QMN) over the past 20 years.

Mr. House has a BSME degree from the University of Maryland at College Park.

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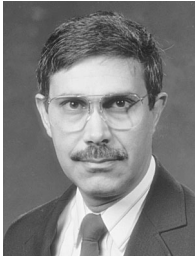
**William S. M'Coy** is Vice President at HDR Engineering, Inc., in Norfolk, Virginia, and was previously with Malcolm Pirnie, Inc. He has a broad range of experience in the design of municipal and industrial water and wastewater collection, distribution, and treatment facilities. Mr. M'Coy has performed and managed numerous designs for water and wastewater treatment facility expansions and upgrades, and has designed raw water and wastewater pump stations, sewer force mains, and gravity sewer rehabilitations. He has experience with the design of positive displacement and centrifugal pumps for water and wastewater applications with capacities up to 80 mgd.

Mr. M'Coy received a B.S. degree (Civil Engineering, 1980) from the Virginia Military Institute and an M.S. degree (Environmental Engineering, 1986) from the University of North Carolina at Chapel Hill. He is a registered Professional Engineer in six states and is a Diplomate in the American Academy of Environmental Engineers.

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**DISCUSSION GROUP 11**  
**on**  
**IMPROVING MEAN TIME BETWEEN PUMP FAILURES**

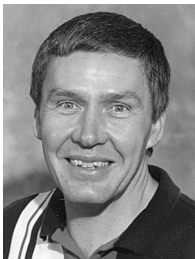
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**John P. Joseph II, Coordinator**, is an independent consultant with Rotating Equipment Systems Technical Associates, in Houston, Texas. He was previously with BP Amoco where he provided technical and maintenance support for rotating equipment systems to existing asset organizations in BP Amoco, and to Project Management on new projects. Prior to that, Mr. Joseph was with the Amoco Petroleum Products Refinery, in Texas City, Texas. He supervised the rotating equipment engineers and the rotating equipment specialists for the refinery. Mr. Joseph spent six and one half years as Superintendent of Central Shops and three years in Amoco's Refining and Transportation Engineering Department, in Chicago, Illinois. Previous assignments at the Amoco Texas City refinery also included the Rotating Equipment Consulting Group, the Project Engineering Group, and as a Maintenance Engineer on the Hydrocracking Unit.

Mr. Joseph received his B.S. degree (Mechanical Engineering, 1972) from the University of Texas at El Paso.

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**William R. (Bill) Litton, Coordinator**, is the Pump Initiative Manager with Magellan Midstream Partners, LP, in Tulsa, Oklahoma. He is an experienced professional engineer with 25 years of experience in the petroleum industry. He has ability and experience in mechanical equipment, prime mover economics, power optimization, and pipeline system hydraulics. Mr. Litton also has project engineering ability and experience in handling pipeline expansions, pipeline pump stations, refineries, fractionators, gas and processing facilities and crude oil, refined products, NH<sub>3</sub>, and propane terminals (brine cavern and excavated caverns). He also has experience in maintaining mechanical equipment company-wide to provide reliable and economical service. This includes rerating of pumps and pump modifications to reduce resonant and nonresonant vibration levels.

Mr. Litton has a B.S. degree (Mechanical Engineering, 1979) from Kansas State University and a B.S. degree (Mathematics, 1978) from Emporia State University. He is a registered Professional Engineer in the State of Oklahoma.

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**Morgan M. (Morg) Bruck** currently works for Marathon Ashland Petroleum in the Engineering Standards and Technical Support group that supports Marathon Ashland Pipeline and Marathon Ashland Petroleum's Light Products and Asphalt Terminals. He has worked with the specification, installation, and maintenance of rotating equipment as an engineer since January 1970. Mr. Bruck has had responsibility for the specification, installation, and maintenance of rotating equipment since 1985. He is also a member of the committees for API Standards 610, 674, and 676.

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**Scott Champlin** is with Pumping Solutions Inc., in Mokena, Illinois.

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**Lev Nelik** is President of Pumping Machinery, LLC, in Norcross, Georgia. He has more than 25 years of engineering, manufacturing, management, sales, and field experience in the pump industry. He has previously worked with Ingersoll-Rand, Goulds Pump, Liquiflo, and Roper Pump. Dr. Nelik is an International Pump Users Symposium Advisory Committee member, a former Associate Technical Editor of the *Journal of Fluids Engineering*, and as Associate Editor of *Water and Waste Digest*. He is a full member of ASME and APICS certified.

Dr. Nelik is a graduate of Lehigh University with an M.S. degree (Manufacturing Systems) and a Ph.D. degree (Mechanical Engineering). He is a registered Professional Engineer, and he has published over 50 papers, including a book, *Centrifugal and Rotary Pumps: Fundamentals with Applications*, and a chapter on pumps for the *Encyclopedia of Chemical Technology*. He has traveled extensively and consulted worldwide on pumps reliability, design, and pump/system analysis.

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**DISCUSSION GROUP 12**  
**on**  
**SEAL USER/MANUFACTURER ALLIANCES**

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**Bruce Weber, Coordinator**, is the Operations Manager for Best Equipment, in Houston, Texas. As Operations Manager, his duties include supervision of the pump repair facility, consulting with clients concerning pumping systems, and pump troubleshooting. Other areas include failure analysis, pump modifications, bearings, high pressure mechanical seals, and lubrication systems. Prior to joining Best Equipment, Mr. Weber was associated with Koch Hydrocarbon, in Medford, Oklahoma, for 18 years. His responsibility as Maintenance Supervisor included 10,000 miles of pipelines that employed 2300 pumps. He also served as a consultant for Koch's four light hydrocarbon processing plants.

Mr. Weber is currently enrolled at the University of Oklahoma, working toward a B.S. degree.

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**DISCUSSION GROUP 13**  
**on**  
**MIXERS AND AGITATORS**

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**Bruce E. Freeland, Coordinator**, is Vice President of Engineering for SPX Process Equipment, headquartered in Delavan, Wisconsin. He is responsible for all product and technology development for mixers, sanitary pumps and valves, and metering pumps produced under the Lightnin, Waukesha Cherry-Burrell, and Bran & Luebbe brand names. His past experience includes management responsibility for mixer product development at Lightnin and product and market development of pumping equipment while working for Goulds Pumps, in Seneca Falls, New York.

Mr. Freeland has presented various technical papers in the past and has been a member of API, serving on Task Forces focused on pumping equipment (610, 685). He is currently an Advisory Committee member for the International Pump Users Symposium.

Mr. Freeland received his B.S. degree (Mechanical Engineering) from Clarkson University and is a registered Professional Engineer in the State of New York.

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