

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

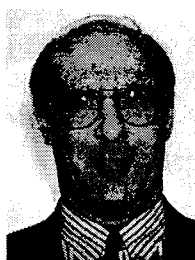
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**John W. Silcott, Coordinator**, is Maintenance Engineering Section Leader for Celanese Chemical Group at its Clear Lake plant near Houston, Texas. His responsibilities are in the area of maintenance engineering/reliability for rotating equipment and fabricated equipment. These responsibilities include improving maintenance technology, project review and support, materials technology, predictive/preventive maintenance, and mechanical integrity.

Mr. Silcott received a B.S. degree (Mechanical Engineering, 1970) from New Mexico State University. He is a member of: ASME, the Board of Directors of the International Maintenance Institute in Houston, an Advisory Committee at Texas State Technical College for the Industrial Maintenance Mechanic Program, the Inspection and Maintenance Task Group with the Chemical Manufacturers Association, and of Texas A&M University's International Pump Users Advisory Committee.

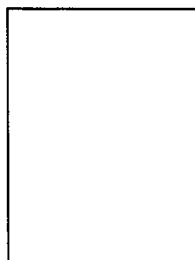
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**Kerry F. Gunn, Coordinator**, is currently a Rotating Equipment Technologist at Sterling Chemicals, Inc., in Texas City, Texas. He is involved in technical support for machinery repair; troubleshooting of rotating equipment; and design, selection, 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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**David W. Lawhon** is a Senior Rotating Equipment Engineer for Celanese Technical Center, in Corpus Christi, Texas. His responsibilities are to provide consulting services to all the Celanese manufacturing facilities in North America. This includes troubleshooting rotating equipment problems, vibration analysis, root-cause failure analysis, recommendation for repair techniques, and technical evaluation of rotating machinery. He consults with project engineering on new equipment specifications, installations, and startup to increase long-term reliability.

Mr. Lawhon received his B.S. degree (Mechanical Engineering, 1985) from Texas A&I University and his MBA degree from Texas A&M University, Corpus Christi (1997). He is active in the Vibration Institute and is a past chairman of the Coastal Bend Chapter. He is also a member of ASME.

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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.

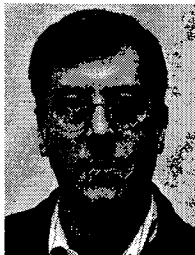
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**Watson Tomlinson** is presently a Pump Improvement Engineer in the Flow Solutions Division of Flowserve (formerly IDP), in Charlotte, North Carolina. He joined Flowserve/IDP in the fall of 1999 after more than 17 years with Duke Power Company. His 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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**Steve Walden** is the Reliability Engineer for the Styrene Strategic Business Unit of Sterling Chemicals, Inc., in Texas City, Texas. His primary responsibilities include developing and managing the reliability program for the 5MM lb/day styrene unit. He is involved in rotating equipment troubleshooting and repair, root cause failure analysis, analysis of vibration data, training operators and machinists, project development, and other duties. He was previously with Equistar Chemicals LP, Solvay Polymers Inc., and Amoco Chemicals.

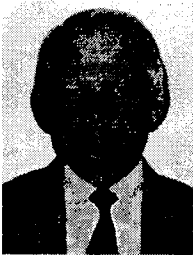
Mr. Walden has a Bachelor of Arts and Sciences (1977) from The University of Oklahoma and a BSME (1989) from Oklahoma State University.

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## DISCUSSION GROUP 2

on

## MECHANICAL SEALS



**Alan O. Lebeck, Coordinator**, started Mechanical Seal Technology, Inc. (MSTI) in 1987, in Albuquerque, New Mexico. MSTI performs research and product development, designs software, and consults, all in relation to mechanical seals.

Dr. Lebeck served on the faculty of the University of Illinois, then worked for Shell Development. From 1971 to 1987, he served as Professor and Director of the Mechanical Engineering Department at the University of New Mexico, and as Director of the Bureau of Engineering Research. During this time, he started a mechanical seal research program under the sponsorship of the National Science Foundation and the U.S. Navy. This work served as the basis for numerous papers, reports, and inventions. A seal test program was started in 1978 and has continued. His book, *Principles and Design of Mechanical Face Seals*, was published by John Wiley (1991).

Dr. Lebeck received his B.S. (1964), M.S. (1965), and Ph.D. (1968) degrees (Mechanical Engineering) from the University of Illinois.

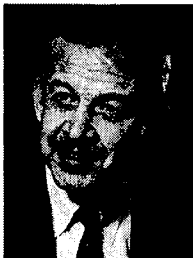
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**Joseph M. Thorp, Coordinator**, is an Engineering Specialist within the Technical Services Department of Aramco Services Company (ASC), in Houston, Texas. He has provided technical support for Saudi Arabian Oil Company (Saudi Aramco) projects in 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, Mr. Thorp worked with Phillips Petroleum Company. He holds a B.S. (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.

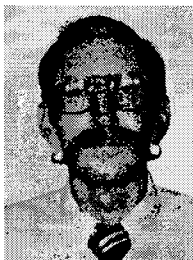
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**Michael D. (Mike) Concannon** is currently Senior Application Engineer for Flowserve, located onsite at Pharmacia in Kalamazoo, Michigan. He has held assignments as Research Engineer and Senior Research Engineer with Flowserve. Prior to joining Flowserve (formerly Durametall) in 1984, he was Director of Research and Development for a pulp and paper equipment manufacturer.

Mr. Concannon received a B.S. degree (Electrical Engineering, 1969) from Western Michigan University. He has written several technical papers and is a registered Professional Engineer in the State of Michigan.

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**Francis H. Kludt** is the Associate Rotating Equipment Engineer at the Celanese, Pampa, Texas plant. His present responsibilities include maintenance engineering and technical support for all rotating equipment in the plant. This includes project review and consultation, troubleshooting, repair, lubrication, reliability improvements, and preventive/predictive maintenance programs. He worked with the Westinghouse Power Generation Service Division as Service Engineer and Advanced Reliability Engineer (1969 to 1976), and at Olin Chemical as Senior Maintenance Engineer (1976 to 1978), before joining Celanese Chemical in 1978. He has been a coauthor of papers for the Turbomachinery Symposium.

Mr. Kludt received a B.S. degree (Mechanical Engineering, 1969) from Texas A&M University and an MBA degree (Management, 1999) from Wayland Baptist University. He is a member of ASME, the Vibration Institute, and is a registered Professional Engineer in the State of Texas.

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**Christopher A. Kowalski** performs the function of Consulting Engineer, presently employed in the Fluid Sealing Systems Business of A.W. Chesterton Company, in Groveland, Massachusetts. He provides research and development management for gas sealing projects. The application of close film gas sealing technology to pumps and compressors has been a focal interest since 1990. Mr. Kowalski is coinventor of several patents and has cowritten papers in the field of gas seal technology. He was the Engineering Manager for gas seal products at EG&G Sealol for five years. He also has 15 years of design, maintenance, and field improvements for high-pressure compressors in his experience.

Mr. Kowalski received a B.E. degree from Stevens Institute of Technology and is a member of ASME and STLE.



**Todd R. Monroe** is a Principal Reliability Engineer for Equistar Chemicals LP, in LaPorte, Texas, specializing in machinery reliability and mechanical seals for the complex. His present responsibilities include root-cause failure analysis, reliability improvements for existing equipment, and specification, installation, and commissioning of new equipment and new process units. Prior to joining Equistar, he was with the Durametallic Corporation, working as an Applications Engineer.

Mr. Monroe has a B.S. degree (Mechanical Engineering, 1984) from Texas Tech University. He is a registered Professional Engineer in the State of Texas, and a member of the Vibration Institute.



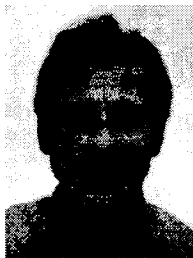
**James P. (Jim) Netzel** is Chief Engineer at John Crane Inc., in Morton Grove, Illinois. He joined John Crane in 1963 and has more than 35 years of experience in the design and application of mechanical seals and systems. Mr. Netzel's accomplishments include five patents on various seal designs, and he has contributed numerous technical papers and articles published through STLE, ASME, BHRA, AISE, and various trade publications. He has written chapters for the Pump Handbook and the Centrifugal Pump Handbook.

Mr. Netzel received his B.S. degree (Mechanical Engineering, 1963) from the University of Illinois. He is a Fellow of the Society of Tribologists and Lubrication Engineers (STLE) and on the Board of Directors of STLE. He is past Chairman of the ASME/STLE International Tribology Conference and past Chairman of the Seals Technical Committee of STLE.



**Faith L. Polk** is a Mechanical Specialist in the Machinery Engineering Group with The Dow Chemical Company, in Plaquemine, Louisiana. She specializes in pumps and mechanical seal systems and their reliability for the site. She joined the Dow Louisiana Operations in 1988 in the Machinery Engineering Group, where she spent several years installing, troubleshooting, and specifying all types of rotating mechanical equipment. Currently, she is a member of Dow's global pump and seal specialist group that focuses on pump and seal issues, technology, shared global problem solving, troubleshooting, and general specifications.

Mrs. Polk received a B.S. degree (Mechanical Engineering, 1987) from Tennessee Technological University.



**Eric Vanhie** combines the functions of Engineering and Product Manager for the Engineered Products Group at Burgmann Seals, in Houston, Texas. He focuses on development and sales of economical sealing solutions for difficult applications. He has been active in US and European mechanical seal markets since 1982 in various responsibilities. He started as an Application Engineer and went into design and product development engineering for a major US seal company. In 1988, Mr. Vanhie moved back to Europe to join the European affiliate as Engineering Manager. From 1992 until 1997, he was Sales Manager, first for The Netherlands, then for Western Europe. While in Europe, he wrote several articles on the subjects of fugitive emissions and extending the life of mechanical seals, and was a member of the mechanical seal work group of the European Sealing Association.

Mr. Vanhie has a B.S. degree (Mechanical Engineering, 1978) from Polytechnic College in Belgium.



**Neil M. Wallace** is the Technical Director of John Crane EMA (Europe, Middle East, and Africa). He operates from Manchester and Slough, in England, and is responsible for technical matters in John Crane EMA and Asia Pacific. He previously worked with Renold Limited and Flexibox International, whom he joined in 1974. He has extensive experience in the field of mechanical seals and power transmission couplings and has presented many technical papers around the world.

Mr. Wallace earned his B.Sc. degree at Manchester University (1965). He is Fellow of the Institution of Mechanical Engineers and a Chartered Engineer. He is Chairman of the British Standards Working Group on Mechanical Seals, past Chairman of the Mechanical Seals division of the European Sealing Association, and a member of the API 682 Task Force, currently producing the first revision.



**Bruce Weber** 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 3

on

## BEARINGS AND LUBRICATION

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**Lev Nelik, Coordinator**, is a President of Liquiflo Equipment Company, in Garwood, New Jersey. He has over 20 years of engineering, manufacturing, sales, field, and management experience in the pump industry. Previously, he worked at Roper Pump, IDP (Ingersoll-Rand), and ITT (Goulds Pumps).

Dr. Nelik is a registered Professional Engineer and has published over 50 documents, including a "Pumps" section for the *Encyclopedia of Chemical Technology*, a section for the *Handbook of Fluids Dynamics*, and a book *Centrifugal and Rotary Pumps: Fundamentals with Applications*.

Dr. Nelik is a member of the International Pump Users Symposium Advisory Committee, an Advisory Board Member of *Pumps & Systems* and *Pumping Technology* magazines, and a former Associate Technical Editor of the *Journal of Fluids Engineering*. He is a full member of ASME, and a Certified APICS (CIRM). He is a graduate of Lehigh University with an M.S. degree (Manufacturing Systems) and a Ph.D. degree (Mechanical Engineering).

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**Gary A. Krafft, Coordinator**, is a Technical Representative with HydroTex Dynamics, Inc. and BFI Pump Company, in Houston, Texas. He began this role in January 1998. His current responsibilities include utility and industrial accounts for pump repairs/improvements, along with engineering support for systems.

Previously, Mr. Krafft was an Engineering Specialist at TU Electric. He worked in power plant maintenance functions for 22 years and was heavily involved with the troubleshooting and problem resolution of large rotating equipment. This type of equipment not only included pumps, but also steam turbines, generators, fans, and electric motors.

Mr. Krafft received his B.S. degree (Mechanical Engineering) from Texas A&M University. He was the originator of TU Electric's Equipment Repair Group (1982), which was formed to improve reliability. He has worked with fossil and nuclear plants, and the gas pipeline and mining divisions. Mr. Krafft is a registered Professional Engineer in the State of Texas.

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**Chesley Brown** is Senior Engineer in the System Engineering Department for TXU Electric, 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 Electric 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.

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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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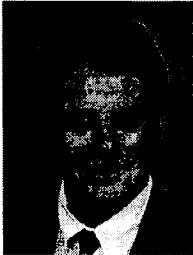


**Donald C. (Don) Ehlert** has been employed with Lubrication Systems Company, in Houston, Texas, for the past 25 years. His present position is that of Sales Manager. Mr. Ehlert has been involved with lubrication equipment and system technology for a total of 34 years. His present responsibilities include 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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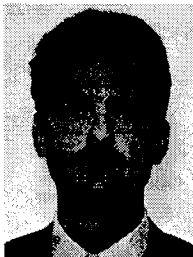


**Michael Polk** is the founder and President of Reliability Associates, a turbomachinery consulting firm, in Slidell, Louisiana. He retired from Mobil Oil's (formerly Tenneco) Chalmette Refinery in 1996, after 16 years of service as a Staff Reliability Specialist and Machine Shop Supervisor.

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.

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**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.

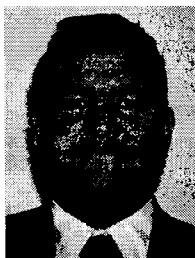
Mr. Stepchinski was previously employed by Exxon Company, USA, at the Baytown Refinery for 16 years. His assignments included: oil mist lubrication system design and troubleshooting; vibration and failure analysis of pumps, motors, fans, compressors, gearboxes, steam turbines, and gas turbines; specification 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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**DISCUSSION GROUP 4**  
**on**  
**COUPLINGS, ALIGNMENT, AND PIPESTRAIN**

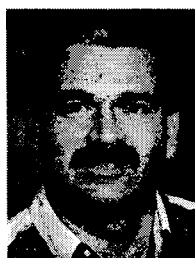
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**Gary E. Glidden, Coordinator**, is a Specialist at Reliant Energy Generation, in Houston, Texas. He has been with REI for more than 30 years. Before his current position, he was Crew Leader in the Maintenance Division for more than 17 years. Twelve of those years were spent in Field Maintenance with responsibilities of performance monitoring, vibration analysis, troubleshooting, field inspections, and repair of all types of rotating equipment. The last five years as Crew Leader, Mr. Glidden was in charge of rotating equipment repairs in the Central Repair Shop.

Mr. Glidden has written several articles for *Pumps & Systems* magazine and for the past six years served on their User Advisory Team. He is a member of the International Pump Users Advisory Committee and is a certified Mechanical Inspector with the American Society for Quality.

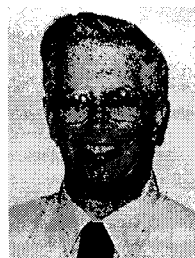
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**Kenneth J. (Ken) Savoie, Coordinator**, is a Senior Staff Engineer with Equilon Enterprises LLC. He is currently assigned as a Rotating Machinery Specialist at the Shell Deer Park Refinery, in Deer Park, Texas. He began his career with Shell Oil Company and spent five years working as a Project and Maintenance Engineer in various areas of the refining and chemical facilities until moving into the Rotating Equipment group in 1985. Since then, Mr. Savoie has worked as a Machinery Engineer throughout the 290K B/D Refinery. In this capacity, he was responsible for providing technical support for rotating and reciprocating machinery systems. This included implementation of strategies and programs to improve the reliability of pump and compressor systems. He also specializes in solving multidiscipline engineering and maintenance problems in refineries.

Mr. Savoie has a B.S. degree (Civil Engineering, 1980) from the University of Southwestern Louisiana. He is a member of ASME.

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**Donald B. (Don) Cutler** is Technical Service Manager for the Thomas Flexible Disc Coupling Operations of Rexnord Corporation, in Warren, Pennsylvania. He spent five years as a field service supervisor with Dresser Clark. During this period, he developed an optical hot alignment check system for the rotating equipment along with graphical analysis of reverse indicator alignment. He then served eight years leading up to Head Contract Engineer for Dresser Clark, before joining Rexnord as Manager of Engineering.

In the past, Mr. Cutler has been a tutorial speaker on coupling hydraulic mounting at the Turbomachinery Symposium. He holds a patent on coupling balancing. He also serves on active committees with both API and AGMA in coupling specification development.

Mr. Cutler graduated from the University of Vermont with a B.S. degree (Mechanical Engineering, 1954). He went to graduate school at New York University in Meteorology while with the United States Air Force.

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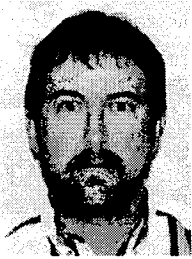


**Dave Diehl** manages training and marketing at COADE Engineering Software, in Houston, Texas. Prior to joining COADE in 1986, he developed his skills in pipe stress analysis by providing technical support to users of AUTOFLEX and DYNAFLEX. At COADE, Mr. Diehl brings his 25 years of experience in pipe 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.

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**Michael W. Johnson** is an Engineer in the Condition, Assessment, and Monitoring Department of Houston Industries—Power Generation, in Houston, Texas. Mr. Johnson graduated from the University of North Dakota (1980) and is a registered Professional Engineer in the State of Texas.



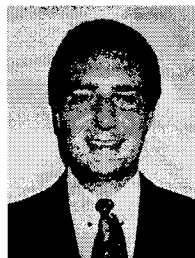
**C. Richard Massey** is the President of A-Line Manufacturing Company, Inc., a manufacturer of precision reverse alignment tools, located in LaPorte, Texas. He gained 16 years of experience with the Atlantic-Richfield Houston refinery as a machinist. After being granted a patent on the alignment tools 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.



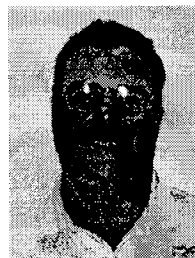
**Christopher P. (Chris) Rackham** is Engineering Manager for John Crane Flexibox, in Houston, Texas. He has been with Flexibox, Inc., since receiving a B.S. degree in Engineering from Pennsylvania State University (1979). Prior to his current position, he served as Design Engineer and Applications Engineer. 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).



**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.

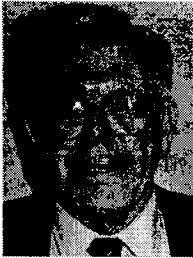


**Robert (Bobby) Vega** is Senior Mechanical Inspector with Shell Chemical Company, at the Norco Refinery, in Norco, Louisiana. He began his career in 1972 as a machinist, serving a four-year apprenticeship in the New Orleans area. He joined Shell Chemical Company in 1978 as a Machinist, performing routine maintenance work on turbines, pumps, gearboxes, etc. In 1990, he began his career as a Mechanical Inspector for Project Engineering, which is largely new construction.

In addition to being a Mechanical Inspector, Mr. Vega also handles all the pipe stress analysis for Shell Chemical Company at the norco facility. He began doing stress analysis in 1997. As a Mechanical Inspector, he can relate to the importance of pipe alignment to mechanical equipment when he is doing a stress analysis.

**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.

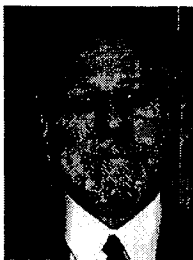
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**Stephen D. (Steve) Cross** has been employed by Utility Engineering and/or its successor companies since January 1979. He is currently the Manager of the Mechanical Engineering Department in the UE Amarillo, Texas, office. He has extensive experience in a wide range of engineering and construction projects including the design of all mechanical systems in a power plant. Mr. Cross's experience has provided him with a thorough knowledge of mechanical systems, and assumes the management and responsibility of a variety of power, industrial, municipal, and commercial projects. He has been involved with more than 20 power projects using vertical pumps in condensate, circulating water, auxiliary cooling water, and sump transfer applications.

Mr. Cross has a B.S. degree (Industrial Engineering, 1978) from Texas Tech University. He is a member of NSPE, TSPE, and ASME.

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**Robert (Bob) Davis** is a Senior Engineer with Johnston Pump Company, in Brookshire, Texas. He has more than 23 years of pump experience, 13 years with Johnston Pump Company. Mr. Davis has been involved with pump design, hydraulic application, vibration analysis, testing and troubleshooting of vertical and horizontal pumps. Prior to his current position, he worked for Dresser-Rand Power as a Systems Engineer and with Southern Engine & Pump Company as an Application Engineer.

Mr. Davis received his B.S. degree (Mechanical Engineering Technology) from the University of Houston. He is a member of ASME and ASM.

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**Robert P. (Bob) Komin** has been employed by Graphite Metallizing Corporation since 1981. He is the West Coast Engineering Sales Representative for Graphalloy Products.

Previously, Mr. Komin was an Assistant Chief Engineer with Sulzer Bingham Pumps. His area of responsibility was Bingham's Vertical Pump Line. In that capacity, he testified as a pump and bearing expert before the Nuclear Regulatory Commission regarding the safety and reliability of the vertical pump in nuclear power plants. He was previously employed by Johnston Pump, Peerless Pump, and J.C. Carter Pump Companies. Mr. Komin has spent over 30 years working directly in the pump industry. He has been a speaker at the Pacific Energy Association, the P.E.A. Pacific Northwest Chapter's Pump Workshop, and the Western Gas Processors and Oil Refiners Association Pump Workshop.

Mr. Komin attended Portland State University. He is a member of ASME.

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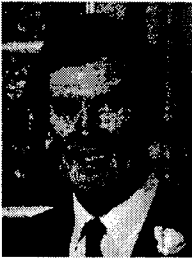


**James B. (Jimmy) Stinnett** is currently a Group Engineer in Utility Engineering Corporation's Mechanical Engineering Group, in Amarillo, Texas. Utility Engineering Corporation (UE) specializes in power plant design. Mr. Stinnett has worked on numerous power plant projects performing the mechanical engineering design, equipment specification, and supervision of CAD construction drawings. He has served as Project Engineer, Lead Engineer, Lead Mechanical Engineer, and Field (Jobsite) Engineer. Areas of emphasis in his mechanical engineering design experience include piping system design, combustion turbine-based plant design, combined cycle/cogeneration plant study and design, and cooling tower design.

Mr. Stinnett attended Texas Tech University and is a member of ASME and TSPE. He is a registered Professional Engineer in the States of Texas, Georgia, and Alabama.

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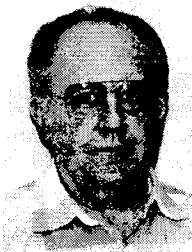
**DISCUSSION GROUP 6**  
**on**  
**PUMP VIBRATION MONITORING AND ANALYSIS**



**Thomas R. (Tom) Morton, Coordinator**, is Vice President for Engineering for Sulzer Pumps (U.S.) Inc., in Portland, Oregon. His current responsibilities include direction of Design, Order Related Engineering, Field Engineering, Hydraulics Department, and CAD. He has been with Sulzer Bingham (formerly Bingham Willamette Company) since 1969, serving in managerial/leadership positions.

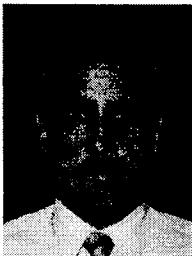
Mr. Morton was born, raised, and educated in Scotland at Stow College, Glasgow. Before leaving Scotland, he was employed at G&J Weir Pump Company, Glasgow.

Mr. Morton is a member of ASME and the International Pump Users Symposium Advisory Committee.



**Vernon L. (Vern) Maddox, Coordinator**, is Senior Engineering Advisor with Equistar Chemicals LP, Channelview, Texas. In this capacity, he serves as a consultant to all Equistar facilities on machinery engineering, condition monitoring, and vibration analysis for new and existing equipment. Mr. Maddox also provides services to new projects in the area of equipment selection, specifications, and installation and startup of rotating and reciprocation equipment. He has more than 35 years of experience in machinery engineering, troubleshooting, and condition monitoring. Prior to his current assignment, he was in charge of reliability engineering and condition monitoring operations at the Equistar facilities at Clinton, Iowa, and LaPorte, Texas.

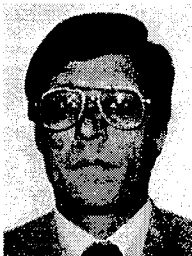
Mr. Maddox has a B.S. degree (Mechanical Engineering) from the University of Texas, Austin. He is a member and former Director of the Vibration Institute and is a registered Professional Engineer in the State of Texas.



**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.

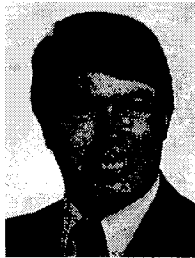
Mr. Gonzales has been associated with the Pump Division for 35 years in the areas of design, testing, and field problems involving vibration, fluid pulsation, and noise. He was directly involved in the development of the Byron Jackson feedpump expert diagnostic software program, which diagnoses vibration 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).



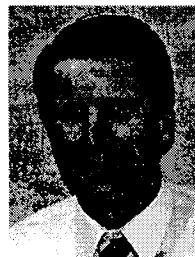
**Terry Hernandez** is the Rotating Equipment Engineer supervisor at Lyondell Chemical, in Channelview, Texas. He supervises technicians responsible for the vibration and lube oil predictive maintenance programs along with the mechanical inspection and quality control on outside machinery repairs. Mr. 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.



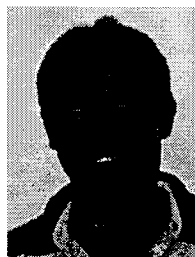
**Malcolm E. Leader** is a Turbomachinery Consultant and Owner of Applied Machinery Dynamics, in Dickinson, Texas. He is currently involved in the design, testing, modification, and installation of rotating equipment. He spends time doing theoretical design audits and working in the field implementing changes and overseeing installations.

Mr. Leader obtained his B.S. (1977) and M.S. (1978) degrees from the University of Virginia. While there, he worked extensively on experimental rotordynamics and hydrodynamic bearing design. He has written several papers on the subjects of experimental rotordynamics, bearing design, design audits for rotating equipment, and practical implementation of rotordynamic programs. Mr. Leader is a member of ASME, Sigma Xi, the Houston Chapter of the Vibration Institute, and is a registered Professional Engineer in the State of Texas.



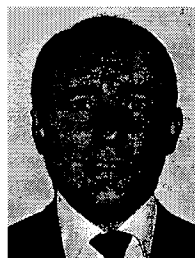
**Jerome A. (Jerry) Lorenc** is Senior Research Engineer in the Industrial Pump Group of ITT Industries, in Seneca Falls, New York. He has been with ITT since 1976, serving as Instrumentation Engineer, Supervisor of the R&D Lab, and his present position. His responsibilities include design of pump test 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 four papers and has a centrifugal pump related U.S. patent.

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.



**Tim McGinley** has been with Bently Nevada Corporation for 15 years. He has held positions in manufacturing, engineering, custom products, management, training, and machinery management services. He has worked in North America, South America, Asia, and the Middle East. Mr. McGinley's primary function is machinery diagnostics: using vibration analysis, thermal growth studies, and other measurements. He has worked in the agriculture, communications, and engineering industries.

Mr. McGinley received an A.A.S. degree (Electronic Technology, Computers and Automation) from Central Community College in Hastings, Nebraska, and a B.S. degree (Mechanical Engineering) from the University of Nevada, Reno.



**Jamie Purvis** is a Senior Machinery Specialist in the Reliability Engineering Group at Equistar Chemical's Channelview, Texas Complex. His responsibilities include vibration monitoring, lube oil analysis, and machinery troubleshooting/inspection. He has been involved with predictive maintenance and vibration analysis for the last 11 years.

Mr. Purvis is a member of the Vibration Institute.



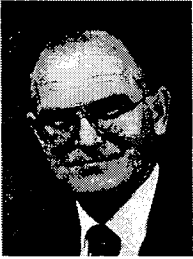
**Steven M. Schultheis** is a Principal Engineer in the Specialty Engineering group at Equistar Chemical LLP, in Channelview, Texas. He acts as the focal point for condition monitoring projects throughout the enterprise in addition to providing machinery analysis technical support to solve problems with rotating and reciprocating machinery. Before joining Equistar, he worked as a diagnostic engineer for Bently Nevada, and as a research engineer for Southwest Research Institute.

Mr. Schultheis received a B.S. degree (Mechanical Engineering) from New Mexico State University. He is a registered Professional Engineer in the State of Texas, and is a certified Vibration Specialist Level II. He is a member of ASME and the Vibration Institute.

## 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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**Julien LeBleu, Jr., Coordinator**, is the Principal Engineer for Rotating Equipment for Lyondell Chemical, in Lake Charles, Louisiana. He is responsible for all rotating equipment in the Lake Charles facility and has more than 25 years of experience in the field of rotating equipment. He has worked for General Electric Company as a technical director for the installation and maintenance of large steam turbine and generator sets. Mr. LeBleu is a licensed aircraft mechanic and has worked on both reciprocating and jet aircraft engines. He is a member of the International Pump Users Advisory Committee, has authored several articles, and has lectured at Pump Symposia.

Mr. LeBleu received his B.S. degree from the University of Florida (1974).

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

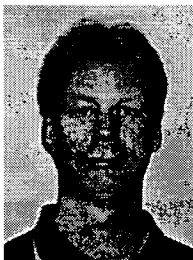
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**Bruce Weber, Coordinator**, is the Operations Manager for Best Equipment, in Houston, Texas. As Operations Manager, his duties include supervision of the pump repair facility, consulting with clients concerning pumping systems, and pump troubleshooting. 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.

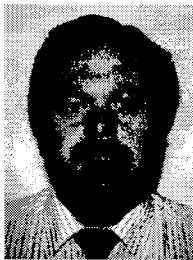
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**Gary Daileda** is currently Manager of Project Engineering for TEPPCO, in Houston, Texas. Since joining TEPPCO in 1982, he has held a variety of positions in engineering, operations and maintenance, and business development. He is responsible for the overall project management and engineering design functions for the company's capital improvement projects. 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.

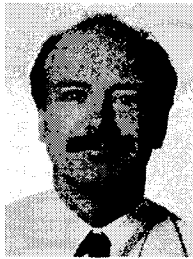
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**Roger A. Davey** is the Manager of the Hydraulic Design Group for Sulzer Pumps, in Portland, Oregon. He was formerly the Chief Engineer at David Brown Pumps in the United Kingdom, moving to Sulzer in 1996, after 23 years' experience in pump mechanical and hydraulic design. He also represented the company on the Technical Committee of API 610 Eighth Edition.

Mr. Davey was educated at Sheffield Polytechnic in England, and is a member of the Institute of Incorporated Engineers (Mech.).

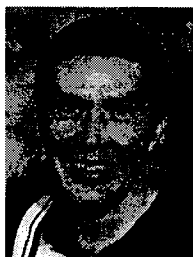
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**Marc De Silva** is the Marketing Manager for Process Pumps at Flowserve, in Houston, Texas. His 20 year career in the pump industry has included sales and marketing positions at Ingersoll-Rand, IDP, and now Flowserve. For eight years he was the multistage axially split Product Manager in IDP's Phillipsburg, New Jersey, plant, where he became involved in numerous pipeline projects around the world.

Mr. De Silva has a B.A.Sc. degree (Mechanical Engineering) from the University of Waterloo and an MBA degree from McGill.

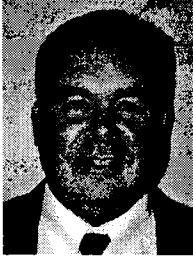
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**William R. (Bill) Litton** is a Senior Equipment Engineer with Williams Company, in Tulsa, Oklahoma. He has more than 20 years of experience in the petroleum industry. He has ability and experience in mechanical equipment, prime mover economics, power optimization, and pipeline system capacities. Mr. Litton also has project engineering ability and experience in handling pipeline expansions, pipeline pump stations, refineries, fractionators, gas and processing facilities, 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 and participated in the API 610 Task Force.

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**George J. Maddox** is the Manager of Engineering for PumpWorks, in Tyler, Texas. He has more than 20 years experience in a variety of engineering design and engineering management positions. Mr. Maddox is currently involved in the remanufacture, repair, rerating, and packaging of centrifugal pumps. His responsibilities include the hydraulic and mechanical design and design evaluations of centrifugal pumps and pump units.

Mr. Maddox has a BSME degree from the University of Texas at Arlington and an MBA from Amber University. He is a registered Professional Engineer in the State of Texas.



**Michael J. (Mike) Piscitelli** is Pipeline Product Manager for pumps in the Flow Solutions Division-Service Group of Flowserve Corporation, in Houston, Texas. He has 30 years of experience in the application, design, and testing of centrifugal pumps. He has been involved in many pipeline projects for crude oil, products, and liquid carbon dioxide, and has worked extensively on rerating equipment for improved efficiency and mechanical stability.

Mr. Piscitelli was an instructor in the American Petroleum Institute, School of Pipeline Technology for 10 terms, from 1989 through 1994. In 1994, he authored an article for *Pipeline Industry* magazine titled, "How One Company Controlled Cost by Rerating Five Pumps."

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## DISCUSSION GROUP 9

on

### POSITIVE DISPLACEMENT PUMPS—MAINTENANCE, OPERATION, RELIABILITY

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**Lev Nelik, Coordinator**, is a President of Liquiflo Equipment Company, in Garwood, New Jersey. He has over 20 years of engineering, manufacturing, sales, field, and management experience in the pump industry. Previously, he worked at Roper Pump, IDP (Ingersoll-Rand), and ITT (Goulds Pumps).

Dr. Nelik is a registered Professional Engineer and has published over 50 documents, including a "Pumps" section for the Encyclopedia of Chemical Technology, a section for the *Handbook of Fluids Dynamics*, and a book *Centrifugal and Rotary Pumps: Fundamentals with Applications*.

Dr. Nelik is a member of the International Pump Users Symposium Advisory Committee, an Advisory Board Member of *Pumps & Systems* and *Pumping Technology* magazines, and a former Associate Technical Editor of the *Journal of Fluids Engineering*. He is a full member of ASME, and a Certified APICS (CIRM). He is a graduate of Lehigh University with an M.S. degree (Manufacturing Systems) and a Ph.D. degree (Mechanical Engineering).

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**James R. (Jim) Brennan** is Market Services Manager for Imo Pump, in Monroe, North Carolina. His responsibilities include worldwide marketing and technical support for pumping applications. He has 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.

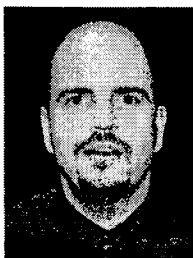
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**Terry Hernandez** is the Rotating Equipment Engineer supervisor at Lyondell Chemical, in Channelview, Texas. He supervises technicians responsible for the vibration and lube oil predictive maintenance programs along with the mechanical inspection 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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**Gary Lent** is R&D Director of Wilden Pumps, in Grand Terrace, California. He joined Wilden Pump & Engineering in 1995 as the Manager of Research and Development in charge of engineering, testing, and CAD. He began his career at The Boeing Company as an aerodynamicist in the wind tunnel test group and supported tests for commercial jets 737, 747, 757, and 767, and government programs. He was later selected as the project manager for the Flight Management Computer for the 777. As project manager, he led changes in system design including instituting advanced algorithms for the calculation of the plane's takeoff speeds.

Mr. Lent received a B.S. degree (Aerospace Engineering, 1986) from Syracuse University, where he graduated with honors and won a national award sponsored by General Dynamics for the design of a supersonic business jet. He received an M.S. degree (Fluid Dynamics, 1991) from The University of Washington.

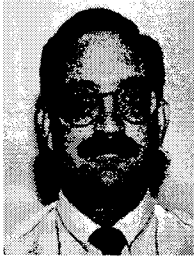
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**Arie J. Pijl** is the International Application Manager with VERDER, Ltd., in Leeds, England. He is responsible for the VERDERFLEX hose pump worldwide and is also responsible for part of its development.

After his university studies in Technical Engineering, Mr. Pijl began his career as a Research Engineer at a dredging company to develop a centrifugal type dredge pump. In early 1986, he started in the positive displacement pump market with peristaltic pumps as a Research and Design Engineer, and Application Engineer. Mr. Pijl moved to VERDER in 1997.



**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 and Systems* Magazine User's Advisory Board.



**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.



**Lez Warren** is a Director of Cat Pumps (U.K.) Limited, manufacturers of high pressure triplex pumps, in Hampshire, England. He runs their European Technical Centre and has been responsible for a number of unique developments within the high pressure pumping industry.

Mr. Warren graduated from Loughborough England with first class honors in Aeronautical Engineering. He then joined the British Ministry of Defence as an Aerospace Research Scientist, specializing in materials and heat transfer. He then worked for two specialist material suppliers before joining Cat Pumps some 26 years ago.

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**DISCUSSION GROUP 10**  
**on**  
**PUMP SUPPORT ON THE INTERNET**

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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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**Jerry C. Swalley, Coordinator**, is a Principal Consultant with the DuPont Company, in Wilmington, Delaware. He is currently Technology Leader for the Rotating Machinery Group that provides specifications, standards, analysis, consulting, and other technology for pump, turbomachinery, and other rotating equipment systems used by DuPont, and has been with the company for 32 years. His work has varied from vibration analysis and emergency repairs through compressor design and performance analysis.

Mr. Swalley contributed to ASME B73 Pump Standards from 1972-1994. He presented a paper at the Turbomachinery Symposium in 1985, and has coauthored two Short Courses and led several Discussion Groups. Before joining DuPont, he worked in a machine design group for the Dravo Corporation in Pittsburgh, Pennsylvania. He graduated from the University of Illinois with a BSME degree (1964) and an MSME degree (1965). He is a member of ASME and a registered Professional Engineer in the State of Illinois.

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**Daniel W. (Dan) Wood** is Manager of Advanced Technology for Flowserve Corporation, in Irving, Texas. His group is responsible for sensors, data acquisition, diagnostics and prognostics, reliability analysis, and reliability improvement tools. He began his career at Flowserve Corporation in 1991 in Product Development and, more recently, has served as a technology transfer channel between Flowserve and DuPont while on special assignment in Wilmington, Delaware.

Mr. Wood graduated from the University of Cincinnati (BSME, 1991). He is a member of ASME and the Hydraulic Institute. He is also a certified Level III Vibration Analyst.

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## DISCUSSION GROUP 11

on

### IMPROVING MEAN TIME BETWEEN PUMP FAILURES

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**Perry C. Monroe, Jr., Coordinator**, formed Monroe Technical Services, in Houston, Texas, in 1989, which specializes in all aspects of turbomachinery. He resigned from Exxon Chemical Company after serving as a Senior Staff Engineer. He provided worldwide services on rotating machinery design, troubleshooting, new installations, and repairs. Prior to joining Exxon, Mr. Monroe worked in Borneo with Roy M. Huffington, Inc., and at the P.T. Badak LNG Plant.

In 1966, Mr. Monroe graduated from Auburn University with a B.S. degree (Mechanical Engineering) and has worked for more than 30 years on turbomachinery repair techniques. Prior to graduation, he worked as a designer of rocket engine components for NASA at Redstone Arsenal.

Mr. Monroe is a member of Texas A&M University's International Pump Users Symposium Advisory Committee. He is an active lecturer for ASME, the International Maintenance Institute, the Vibration Institute, and is a registered Professional Engineer in the State of Texas.

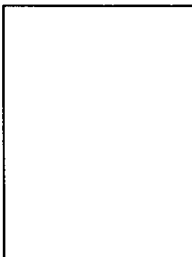
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**John P. Joseph II, Coordinator**, is a Consultant with Rotating Equipment Systems Technical Associates, in Houston, Texas. He was previously with BP Amoco where he provided technical and maintenance support for rotating equipment systems to existing 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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**Robert C. Eisenmann, Jr.**, currently holds the position of Rotating Equipment Engineer for BP-Amoco at the Texas City Refinery. He provides technical support on maintenance, operation, and installation of refinery rotating equipment. Prior to his current position, Mr. Eisenmann was the Manager of Rotating Equipment at Hahn & Clay, in Houston, Texas. He was responsible for the repair, refurbishment, and enhancement of process machinery for a wide variety of industrial applications.

Mr. Eisenmann received his B.S. degree (Marine Engineering, 1992) from Texas A&M University, at Galveston.

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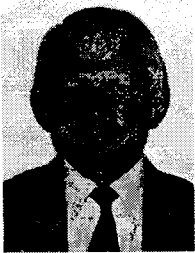
**Julian Hanks** is a Consulting Engineer with Equistar Chemicals LP, in the Engineering Technology Group—Machinery Reliability Section, in Morris, Illinois. In this capacity, he provides the Equistar facilities with technical support and consultation on machinery engineering, reliability improvement, maintenance, and condition monitoring. During his 13 years of experience at Equistar, his assignments have included Reliability Superintendent, Machinery Reliability Engineer, and Maintenance Engineer at Equistar's Morris, Illinois petrochemical complex. For two years, he was also a Reliability Engineer with Citgo Petroleum Corporation at their Lemont, Illinois refinery.

Mr. Hanks is originally from the United Kingdom and completed training as a Merchant Navy Officer in Marine Engineering, graduating in 1978 from South Shields Marine & Technical College, England. For three years, he served as an Engineering Officer on passenger ships for P&O-Princess Cruises of London, England. He is a member of ASME and the Vibration Institute.

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

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**Alan O. Lebeck, Coordinator**, started Mechanical Seal Technology, Inc. (MSTI) in 1987, in Albuquerque, New Mexico. MSTI performs research and product development, designs software, and consults, all in relation to mechanical seals.

Dr. Lebeck served on the faculty of the University of Illinois, then worked for Shell Development. From 1971 to 1987, he served as Professor and Director of the Mechanical Engineering Department at the University of New Mexico, and as Director of the Bureau of Engineering Research. During this time, he started a mechanical seal research program under the sponsorship of the National Science Foundation and the U.S. Navy. This work served as the basis for numerous papers, reports, and inventions. A seal test program was started in 1978 and has continued. His book, *Principles and Design of Mechanical Face Seals*, was published by John Wiley (1991).

Dr. Lebeck received his B.S. (1964), M.S. (1965), and Ph.D. (1968) degrees (Mechanical Engineering) from the University of Illinois.

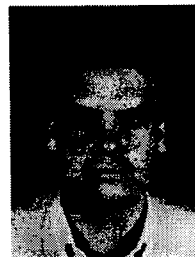
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**Bruce Weber, Coordinator**, is the Operations Manager for Best Equipment, in Houston, Texas. As Operations Manager, his duties include supervision of the pump repair facility, consulting with clients concerning pumping systems, and pump troubleshooting. 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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**Francisco J. Hernaiz** is currently a Rotating Equipment Reliability Engineer for Koch Petroleum Group at its refinery, in Corpus Christi, Texas. His responsibilities include the maximization of machinery availability, performance, utilization, and reliability. He is involved in machinery repair, selection and installation, and root-cause failure analysis. His duties also include the management of the mechanical seals alliance at the refinery.

Mr. Hernaiz received a B.S. degree (Mechanical Engineering, 1992) from Simon Bolivar University, Venezuela.

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**Steve Knoner** is the Alliance Development Manager for Flowserve Flow Solutions Division (formerly BW/IP and Durametallic), in Burr Ridge, Illinois. He is responsible for promoting alliance activity across North America. He has held various sales positions for Flowserve and has more than 12 years of experience in the sealing industry including several years in the field applying mechanical seals.

Mr. Knoner has a B.S. degree (Mechanical Engineering) from Iowa State University and an MBA degree from Washington University, St. Louis.

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**Tim Reece** is the Strategic Alliances Development Manager for John Crane Inc., North America, in Wakefield, Rhode Island. His group is responsible for coordinating and developing alliances with strategic customers for John Crane, North America. Mr. Reece joined John Crane, Inc., in 1996 to work as a National Accounts Manager. At that time, the process industry was beginning to move toward expanding national contracts to include reliability engineering services and writing site-specific fixed fee agreements for their annual mechanical seal usage. Previously, Mr. Reece held sales or sales management positions with EG&G Sealol Industrial Division and EG&G Sealol Eagle. He spent 10 years working in California on the production side of the oil industry as a Regional Sales Manager with Baker Hughes and as a Reliability Engineer with Oil Dynamics, Inc.

Mr. Reece has a B.S. degree (Business Administration) from the University of Phoenix.



**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.

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## DISCUSSION GROUP 13

on

## LIFE-CYCLE COSTS

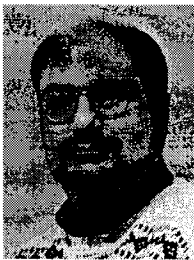
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**Jerry C. Swalley, Coordinator**, is a Principal Consultant with the DuPont Company, in Wilmington, Delaware. He is currently Technology Leader for the Rotating Machinery Group that provides specifications, standards, analysis, consulting, and other technology for pump, turbomachinery, and other rotating equipment systems used by DuPont, and has been with the company for 32 years. His work has varied from vibration analysis and emergency repairs through compressor design and performance analysis.

Mr. Swalley contributed to ASME B73 Pump Standards from 1972-1994. He presented a paper at the Turbomachinery Symposium in 1985, and has coauthored two Short Courses and led several Discussion Groups. Before joining DuPont, he worked in a machine design group for the Dravo Corporation in Pittsburgh, Pennsylvania. He graduated from the University of Illinois with a BSME degree (1964) and an MSME degree (1965). He is a member of ASME and a registered Professional Engineer in the State of Illinois.

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**William A. (Alan) Evans, Coordinator**, is Manager of Engineering for the Mechanical Seal Division of A.W. Chesterton Company, in Groveland, Massachusetts. During his eight years with the company, he has held several positions. He has spent 20 years in the field of rotating equipment, focusing primarily in pumps and turbomachinery. He gained broad experience as an end-user of rotating equipment during his 14 years as maintenance/reliability engineer in process industries. Mr. Evans' technological background and experience cover a wide range of topics, including tribology, machine design, predictive maintenance, and reliability engineering. He has conducted lectures, seminars, and presentations on improving reliability as it relates to pumps/seals and pumping systems. He has published articles for the STLE, of which he is a member.

Mr. Evans received his MBA from Northeastern University and his BSME from Rochester Institute of Technology. He also has an Associate's degree in Applied Science from Pennsylvania State University.

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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 participates in ASME Standards Committee B73 (Chemical Standard Pumps) and is a member of ASME B73.3 Sealless Pump revision subcommittee working group. He graduated from Virginia Polytechnic Institute with a BSME degree (1981). He is a member of ASME and is a registered Professional Engineer in the State of Alabama.

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