



58 Garnock Avenue
Toronto, ON, Canada M4K 1M2
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Fax: 416 466-3807 www.fluidcenter.com

'Providing Tribological Solutions'

Presentations

(Many available upon request)

Triaryl Phosphate Esters Fluids (What, Why and Use), with T. Austin – Canoil), FRF Workshop, Candu Owners Group (COG), May 10-11, 2019, Pickering NGS Information Centre

EHC System Designs and Impact on Fluid Degradation, FRF Workshop, Candu Owners Group (COG), May 10-11, 2019, Pickering NGS Information Centre

EPRI EHC Resource Materials (Reports and Lube Notes), FRF Workshop, Candu Owners Group (COG), May 10-11, 2019, Pickering NGS Information Centre

Understanding EHC Fluid Condition Monitoring, with Matt Hobbs EPT, STLE Power Generation, 2019 Annual Meeting, Nashville, TN, May 21-24, 2019

We Need to do Better – Tribology for Everyone, University of Ontario Institute of Technology, March 12, 2019, Oshawa, ON

Grease Lubrication of MOV Components, with Rich Wurzbach and Domingo Cruz (Palo Verde NS), Motor Operated Valve Users Group Meeting, January 14-16, 2019, Desert Springs, CA

Tribological Friction and Wear Loses – We need to do better, STLE Toronto Section Workshop on Reducing Tribological Loses and Failures, Nov 14, 2018, Kinectrics, Toronto, ON

EHC Fluid Maintenance – Testing and Monitoring Best Practices, 2018 EPRI Turbine Generators Users Group Meeting, August 13, 2018, Baltimore, Maryland

Fire Resistant Fluid Management in Canadian Fleet, with E. Prescott, EPRI Asset Management of Nuclear Steam Turbine Generators Workshop, May 7-8, 2018, Bruce Power, Toronto, ON

Lubrication (Why, what, when, where, who & The Need to do Better), STLE Toronto Section Ed Course The Fundamentals of Lubrication, April 16, 2018, OPG Pickering Training Center, Pickering, ON

EHC Workshop re fluid purification, sampling, testing and trouble shooting, 90 minutes, EPRI Condition Based Maintenance (CBM) Users Group, Lube Breakout. July 13-14, 2017, Louisville, KY

Lubrication (Why, what, when, where, who & The Need to do Better), Toronto Section STLE, Ryerson University presentation to 4th year Engineering students, February 1, 2017, Toronto, ON

What You Need to Know about Oil & Greases and Compatibility Testing, with T. Austin and W. Mackwood, Motor Operated Valve Users Group, January 2017, Desert Springs, CA

Lubrication and Wear, USA-STARS MOV Meeting (Utilities Service Alliance), June 28, 2016, Lynchburg, VA

MOV Grease Evaluations with a Modified 4-Ball Wear Test, with W. Mackwood and S. Wilson, Chemtura Co/Cie, West Hill, ON, E. Austin, Canoil Canada, Mississauga, ON, Power Generation, STLE Annual Meeting, May 16-20, 2016, Las Vegas, NV

Lubrication and Wear (Why, what, when, where, who & The Need to do Better), Toronto Section STLE, Ryerson University presentation to 4th year Engineering students, March 2016, Toronto, ON



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Understanding Lower Temperature MOV Greases, Motor Operated Valve Users Group Meeting, Hyatt Regency Riverfront Hotel, Jan 13, 2015, Jacksonville, FL

Condition Monitoring (Why, what, when, where, who & The Need to do Better), Canadian Machinery Vibration Association - CMVA Ontario Chapter Meeting, OPG Pickering NGS, Nov 20, 2014, Pickering, ON

Conditioning Monitoring and Preventative Maintenance, Toronto Section Education Course Understanding the Principles and Application of Lubrication Science, Oct 29, 2014, Toronto, ON

EHC Electrohydraulic Control Fluid Maintenance, EPRI Condition Based Maintenance Conference, July 15, 2014, Four Seasons Hotel, St. Louis, MI

Why We Need Lubricants and Why We Need to do Better, January 30, 2014, Toronto Section STLE, Ryerson University presentation to 4th year Engineering students

MOV Stem Nut Grease Wear Testing – Update, with W. Mackwood and S. Wilson, Chemtura Co/Cie, and E. Austin, Canoil, Motor-Operated Valve Users' Group Annual Meeting, Jan 13-15, 2014, Hyatt Regency Riverfront Hotel Jacksonville, FL

EHC Fluid Tutorial, 2 hours, K. Brown, Eco Fluid Center Ltd., 13th EPRI Steam Turbine-Generator Workshop, Vendor Exhibition and TGUG Meeting, August 12-16, 2013, Charlotte, NC

MOV Actuator Oil Seepage Causes and Solutions, with W. Mackwood, Chemtura Co/Cie, E. Austin, Forsythe, Power Generation Industrial Council, STLE Annual Meeting, May 4-8, 2013, Detroit, MI

MOV Long Life Grease a Decade Later - Approval and Lessons Learnt, with T. Austin, Forsythe, Motor-Operated Valve Users' Group Annual Meeting, Jan 14-16, 2013, Marriott Rivercenter, San Antonio, TX

Why We Need Lubricants and Why We Need To Do Better, UOIT (University of Ontario Institute of Technology), Nov 2, 2011, Oshawa, ON

Why We Need Lubricants and Why We Need to do Better, Mohandes – Canadian Society of Iranian Engineers and Architects, Sep 7, 2011, Sheraton Parkway, Toronto, ON

Application / Equipment (Why We Need Lubricants and Why We Need to do Better), STLE Toronto Section Education Course: Lubrication Time Capsule, February 8, 2011, Toronto, ON

Glossary of Terms, STLE Toronto Section Education Course: Lubrication Time Capsule, February 8, 2011, Toronto, ON

Trouble Shooting Steam Turbine Phosphate Ester EHC Fluids, Power Generation Industrial Council, STLE Annual Meeting, May 16-20, 2010, Las Vegas, NV

EHC Fluid Maintenance -Trouble Shooting, OPG Workshop on IX Treatment for Steam Turbine Control Fluid, May 14, 2010 at Pickering NGS, Pickering, ON

EHC Fluid Maintenance – Turbine OEM Equipment, OPG Workshop on IX Treatment for Steam Turbine Control Fluid, May 14, 2010 at Pickering NGS, Pickering, ON

Biodegradability and other 'Green' Issues, STLE Toronto Section Education Course on Green Lubrication – The Good, The Bad and the Ugly, February 17, 2010, Old Mill, Toronto, ON

Eco Friendly Lubricants, STLE Toronto Section Education Course. Lubrication Fundamentals and Future Directions, February 10, 2009, Old Mill, Toronto, ON



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Reducing Oil Seepage in SMB Actuators, Motor Operated Valve (MOV) Users Group Meeting, January 5-7, 2009, Contemporary Resort, Orlando, FL

Shop Floor Assessment of Grease in Motor Operated Valves, Power Generation Technical Session, STLE Annual Meeting, May 18-22, 2008, Cleveland, OH

Tribological Due Diligence, STLE Toronto Section Education Course, Lubrication Fundamentals, February 12, 2008, Toronto, ON

Commercial Grade Dedication and In-Service MOV Long Life Grease Testing, 2008 Motor Operated Valve (MOV) Users Group Meeting, January 14-16, 2008, Contemporary Resort, Orlando, FL

EHC Fluid Analysis and Component Issues, B Off-Line Condition Assessment, EPRI Turbine Generators Users Group (TGUG) Winter Workshop, January 15-16, 2007, Royal Plaza, Orlando, FL

MOV Stem Grease Wear Testing, 2007 MOV Users' Group Meeting, Sheraton Sand Key, Clearwater, FL, prepared but given by T. Austin

Electrohydraulic (EHC) Fluid Issues and Maintenance, EPRI 4th Turbine-Generators Technology Transfer Workshop and Vendor Exposition, July 24-25, 2006, The Hilton, Charlotte University Place, NC

MOV Long Life Grease Condition Monitoring Update, 2006 MOV Users' Group Meeting, Sheraton Sand Key, Clearwater, FL

EHC Fluid Twenty Years Later - Still Going Strong, 2005 STLE Annual Meeting, Power Generation Session 5F, Las Vegas, NV, given by T. Austin

MOV Long Life Grease Condition Monitoring Tests, MOV Users' Group Meeting, January 9-12, 2005, Sheraton Sand Key, Clearwater, FL

EHC Fluid Quality and Effect on Overspeed Protection System Reliability, EPRI Turbine Overspeed Risk Management and Reliability Improvement Workshop, February 3-4, 2004, Palmer House Hilton, Chicago, IL

MOV Long Life Limit Switch Applications, 2004 MOV Users' Group Meeting, January 12-14, 2004, Hilton Myrtle Beach Resort, SC

Hydroelectric 'Green' Wicket Gate Grease – 10 Years Later, STLE Annual Meeting, Power Generation I, Monday 9:00, May 17-20, 2004, Toronto, ON

Effect of Water on Properties of Fire Resistant EHC Fluids, STLE Annual Meeting, Power Generation 1, Monday 9:00, May 17-20, 2004, Toronto, ON

Phosphate Ester Electro-hydraulic Fluids, Southern Co. Condition Based Maintenance User Group Meeting, February 18-21 2003, Auburn, AL

All-In-One Grease, An Update On MOV Long Life, MOV Users' Group Meeting, January 13-15, 2003, Sheraton Sand Key, Clearwater, FL

EHC Fluid Maintenance, EPRI Turbine Generator, Technology Transfer Workshop, July 22, 2002, Charlotte, NC

EHC Fluid Quality Maintenance, 7th EPRI Turbine/Generators Users Workshop, given by R. L. Slover and E.M. Austin, August 20-23, 2001 Baltimore, MD

Ten Years Experience with Ion Exchange Purification, with L. Billings and T. Austin, Power Generation Council, STLE 2001 Annual Meeting in Orlando, FL



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Introduction to Predictive Maintenance, STLE Toronto Section Education Course on Oil Analysis and Condition Monitoring, Feb 14, 2001, Toronto, ON.

Phosphate Ester Electro-hydraulic Control Fluids, with T. Austin, Forsythe at EPRI NMAC Turbine Generators Users Group – EHC Workshop, Jan 15-17, 2001, New Orleans, LA

Consolidating Lubricants and Phosphate Ester Electrohydraulic Fluid, EPRI /NMAC Lubrication & Bearing Workshop@, March 29-31, 2000, Williamsburg, VA

Consolidating Lubricants Without Compromising Lubrication, Noria Oil Analysis Conference, October 26-27, 1999, Tulsa, OK

Bearings and Problem Solving, STLE Toronto Section Education Course on Lubrication Problem Solving into the Next Millennium, February 23, 1999, Toronto, ON

Fire Protection and Hazards of Lubricating and Hydraulic Fluids, with T. Austin, Society of Fire Protection Engineers Southern Ontario Chapter, March 9, 1999, Toronto, ON

Steam Turbine Control Fluid Seminar, Monticello GS Texas Utilities, two half day seminars, March 1, 1999, Monticello GS, TX

Greener Lube Practices for Hydro-electric Stations, Power Generation Council, STLE Annual Meeting, May 11-21, 1998, Detroit, MI

Effect of Water on Phosphate Ester Control Fluids, with L. Billings & T. Austin - Forsythe, Power Generation Council, STLE Annual Meeting, May 11-21, 1998, Detroit, MI

Cost Effective Particulate Contamination Control and Lubrication Surveys, STLE Toronto Section Education Courses, Feb 17, 1998 Toronto & Feb 19, 1998 Ottawa, ON

Trouble Shooting EHC Systems, Power Generation Council, STLE 1997 Annual Meeting, Kansas City, MI

Lubrication Fundamentals, Delivered a 2-day Diagnostics Seminar, Aug 5-7, 1996, Tulsa, OK,

Recommended Maintenance Activities and Typical Operating Problems, Steam Turbine Control Fluid Symposium, STLE 1995 Annual Meeting, Cincinnati, OH

Effective Particulate Contamination Control, Plant Engineering and Maintenance Association of Canada, March 6, 1996, Mississauga, ON

Particulate Contamination Control, STLE Toronto Section, October 10, 1995, Toronto, ON

Power Station Particulate Contamination Control, STLE 1995 Annual Meeting, Power Generation Industry Council, Chicago, IL.

Fire Resistant Fluid: Case Histories, with G. Staniewski, STLE 1994 Annual Meeting, Power Generation Industry Council, Pittsburgh, PA.

The Need for Tribology in the 90's, STLE, at the National Research Council of Canada, March 29, 1994, Ottawa, ON.

Fire Resistant Fluid Case Histories, Electric Power Research Institute (EPRI) NMAC 4th Annual Conference and Technical Workshop, March 21-23, 1994, Charlotte, NC.

Achieving Real Cost Savings in Rotating Equipment, Mar 9, 1994, Holliday Inn, STLE Sarnia Section

Continuous Improvement, provided 3 one day awareness seminars for the Engineering Analysis & Codes Department of Ontario Hydro Nuclear, June 30, July 5 and July 12, 1993, Toronto, ON

New Lubricating Materials for Hydraulic Turbine Equipment, with K. Matson and D. Taylor, Canadian Electrical Association, March 30, 1993, Montreal, PQ



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Friction Reduction and Energy Conservation, with R. Okrasa, STLE Hamilton Section, January 19, 1993, Hamilton, ON

'Motor Bearing Repairs, with I. Culbert, to technical staff at Ontario Hydro stations; Lakeview TGS, Bruce 'A' NGS and Pickering NGS, various dates in 1992/93

Salem Overspeed Incident, Presentations to technical staff at Ontario Hydro nuclear stations: Bruce 'A', Bruce 'B', Darlington and Pickering in 1992

Improving Tribological Practices & Energy Conservation, with R. Okrasa, STLE Toronto Section, October 8, 1991, Toronto, ON

Effects of Poor Tribological Practices - A Users Perspective, Industrial Maintenance Technology Symposium held in conjuncture with the STLE 1991 Annual Meeting, April 29-May 4, 1991, Montreal, Quebec

Careers in Science, Agincourt Collegiate, January 23, 1991, given separately to three final year chemistry classes, Scarborough, ON

Lubrication Seminar - Fundamentals of Lubrication, Properties and Uses, Sampling, Greasing Procedures, Economical Costs, and Specific Failures, For mechanical maintainers at Ontario Hydro Bruce 'A' NGS, September-October, 1990. Similar one day seminars were given at Bruce 'B' and Lambton TGS, ON

Effects of Poor Tribological Practices-A Users Perspective, STLE Vancouver Section, May 24, 1990, Vancouver, BC

Fluid Condition Monitoring and Failure Analysis, March 27, 1990, Final year tribology class at McMaster University, Hamilton, ON. Other talks to students have been given at the Universities of Toronto, Waterloo and Rensselaer Polytechnic

Fluid (Oil) Condition Monitoring, Ontario Hydro Nuclear Generation Division (NGD) Fourth Maintenance Conference, January 19, 1990, Aurora, ON. Similar presentations were given at most of the Ontario Hydro nuclear and fossil stations

Condition Monitoring and Maintenance of Steam Turbine-Generator Fire Resistant Triaryl Phosphate Control Fluids, Condition Monitoring and Preventative Maintenance Conference held in conjuncture with STLE Annual Meeting May 1-4, 1989, Atlanta, GA

Presentation on Tribological Losses, Ontario Hydro Design & Development-Generation, Quality Engineering Coordinating Committee, August 24, 1988, Toronto, ON

'Tribology Education: Present Status and Future Challenges, Panel discussion at ASME/STLE Tribology Conference, October 6-8, 1987, San Antonio, TX

Turbine-Generator Bearing Retrofits, 4th NRC Associate Committee on Tribology Research Seminar, May 29, 1987, Sarnia, ON

Earlier ones available upon request