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Meridian Engineering & Technology, Inc. ^{5/04}

Consulting Engineers & Scientists

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EDUCATION

B.S. Mechanical Engineering, University of Illinois, Urbana, 1970

M.S. Environmental Engineering, University of Illinois, Urbana, 1977

Ph.D. Environmental and Occupational Health Studies, University of Illinois,
School of Public Health, Chicago, IL, 1991

M.S. in Human Factors Program, Colleges of Engineering & Psychology, Video
Outreach, University of Idaho, 1993 to 2000 (thesis project not completed,
degree not completed)

HONORS/AWARDS/APPOINTMENTS

Illinois State Scholarship, 1966

U.S. Environmental Protection Agency Graduate Fellowship, 1976

Phi Kappa Phi, 1988

American Chemical Society, Division of Environmental Chemistry, Graduate
Student Award, 1989

Assistant Professor of Environmental and Occupational Health Science, School
of Public Health, University of Illinois, since 1991

National Safety Council, Cameron Award, Certificate of Excellence, Group
Award, 1994-95

Assistant Professor, Illinois Institute of Technology, Chemical and
Environmental Engineering Department, and Stuart School, Environmental
Management Program, since 1997

Alva C. Todd Professorship in Chemical and Environmental Engineering,
Fall 1997

PROFESSIONAL REGISTRATION AND CERTIFICATION

Registered Professional Engineer, Illinois, since 1975

Certified Safety Professional, BCSP, since 1980

Certified for EPA Visible Emissions Evaluation, Michigan and Illinois
1970's-1980's

Registered Environmental Assessor, REA, California, 1991

PROFESSIONAL SOCIETIES AND COMMITTEES (dates)

American Society of Mechanical Engineers, 1984 - 2001

- Safety Engineering & Risk Analysis Division, 1992

Air and Waste Management Association, formerly the Air Pollution Control Association, 1984-2001

- Technical Effects, Risk Assessment, 1986
- Intercommittee Task Force, Monitoring and Modeling, 1986
- Health Effects and Exposure Committee (EE-1)
- Storage and Transportation Committee (WS-2)

Society of Automotive Engineers, 1982-

- Human Factors Technical Committee, SC3, 1983
- Earth Moving Machinery Sound Level Subcommittee, 1983

National Society of Professional Engineers, 1984 - 1997

Illinois Society of Professional Engineers, 1984 - 1997

Water Environment Federation, formerly the Water Pollution Control Federation, 1984-

- Industrial Waste Committee, 1989-1993
- Hazardous Waste Committee, 1985-1992
- Safety and Occupational Health Committee, 1988-1993
- Safety Considerations in Wastewater Design Task Force, (1993)
- Safety and Health in Wastewater Systems, 1990-1994

Illinois Water Pollution Control Association, 1984-1986

Illinois Groundwater Association, 1989-1993

National Safety Council, 1987-

- Power Press, Forging and Metal Fabricating Executive Committee, Education and Training Subcommittee, Industrial Hygiene, 1987, First Vice-Chairman, 1994, Chairman 1995
- Ergonomics/Human Factors Committee, 1995

American Chemical Society, Environmental Science and Technology Division, 1989/90

American National Standards Institute 1989-1992

- ANSI B-11 Ergonomics Subcommittee, 1989-1992
- ANSI B-11 Ventilation Committee, 1989-1992

American Water Works Association, 1990-1993

Chicago Area Committee on Occupational Safety & Health, 1986 -1995

American Standards for Testing & Materials, 1992-

- Committee E50, Environmental Assessments and Environmental Issues, 1992

Society of Chemical Hazard Communication, 1993-1995

National Sanitation Foundation 1992-1993

- ANSI/NSF 100-1993, Committee on "Environmental Management Systems Guidelines for Environmental Auditing Principles and General Practices" (September 1993).

American Society of Heating, Refrigeration and Air-Conditioning Engineers, 1999-2001

American Congress of Governmental Industrial Hygienists, 2000-

EMPLOYMENT

Employer: **Meridian Engineering & Technology** - Consulting Engineers & Scientists

Position: Corporate Officer and Senior Engineer

Duration: October 1997 to present

Experience: Safety, environmental, and mechanical engineering; industrial hygiene; research and development; training and forensic analysis.

Employer: **Illinois Institute of Technology**, Chicago, Illinois

Position: Assistant Professor

Duration: Spring 1997 to present

Experience: Industrial Safety and Health/ Industrial Hygiene/ OSHA & EPA Compliance

Employer: **Triodyne Environmental Engineering, Inc.**, Niles, IL

Position: President

Duration: March 1, 1989 to October 1997

Experience: Environmental engineering and industrial hygiene consultation and analysis.

Employer: **Triodyne Inc.**, Consulting Engineers, Niles, IL

Position: Senior Safety and Mechanical Engineer

Duration: March, 1984 to October 1997

Experience: Safety and mechanical engineering consulting, research and development, training and forensic analysis.

Employer: **University of Illinois**, Chicago Campus

Position: Assistant Professor (non-compensated)

Duration: April 5, 1991 to present

Experience: Environmental Occupational Health Sciences in the School of Public Health.

Employer: **Triodyne-Taussig, Inc.**, Niles, IL

Position: Senior Safety and Mechanical Engineer

Duration: October 1987 to June 1990

Experience: Safety consulting and forensic analysis.

Employer: **University of Illinois**, Chicago Campus

Position: Research Assistant

Duration: April 1989 to January 1990

Experience: Design and construct laboratory experiment and fixtures, perform laboratory analysis, and research into soil based diffusion of environmental contaminants.

Employer: **Oakton Community College**, Des Plaines, IL
Position: Adjunct Faculty Member - Science Department Physics 131, 132
Duration: 84/85 and 85/86 school years
Experience: Taught college physics.

Employer: **Lakeland Community College**, Mentor, OH
Position: Adjunct Faculty Member - Engineering
Duration: 82/83 and 83/84 school years
Experience: Taught credit courses in engineering mathematics, physics, and computer science.

Employer: **Clark Equipment Co., Euclid Division** Engineering Department, Euclid, OH
Position: Senior Project Engineer for Product Safety
Duration: August, 1981 - February, 1984
Experience: Off-highway earth moving and haulage equipment: Brake design and evaluation. Fire safety systems, installation, hydraulic fluids. Access systems -ladders, handrails, grab rails. Visibility aids, blind area viewers, radar devices. Fuel gauges and fueling requirements. ROPS and FOPS. Parking brake interlocks. Warning signs and indicator lights. Wheel failures and nitrogen inflation of tires. Gassy mine and explosive environments - equipment requirements. Exhaust gas scrubbers. Standard and supplemental steering requirements. Pressure vessels on mobile equipment. Accident reconstruction and investigation. World-wide safety and performance regulations for heavy duty vehicles. Operations and service manuals revision.

Employer: **Ford Motor Co.**, Steel Division, Manufacturing Engineering and Environmental Control, Dearborn, MI
Position: Manufacturing and Environmental Compliance Engineer
Duration: January, 1980 - August, 1981
Experience: In fully integrated steel mill, performed technical and environmental audits of operations and equipment performance. Evaluated compliance to local, state, and federal standards for environmental control and solid waste disposal. Material handling equipment for coal, ore and additives. Coke ovens-operation and emissions. Rail car handling and molten metal transfer. Slagging and ingot operations. Rolling mill and quenching operations. Strip steel coil finishing. Waste water clarifier operations. Hazardous waste handling, labeling, shipping, storage, and disposal.

Employer: **Ford Motor Co.**, Automotive Safety Office, Dearborn, MI
Position: Staff Technical Standards Engineer-Manufacturing (April, 1977 - May 1978); Staff Safety Compliance Evaluation Engineer (May, 1978 - January, 1980)
Duration: April, 1977 - January, 1980
Experience: Evaluated company procedures for compliance with government

safety and performance regulations. Review corporate manufacturing standards for safety related components. Performed technical audits of suppliers for safety features of such components as: Seat back inertial latches, seat belts, door locks, attaching hardware, rear light lenses and brake hoses. Technical support to corporate and retained counsel on safety and product liability matters and for NHTSA inquiries. Reviewed and investigated warranty claims, customer complaints, and field service reports for: Windshield wiper malfunctions, engine fan blades, catalyst-originated vehicle fires, seat back failures, transmissions slipping out of park, shift levers, fuel tank impact, headlight switch failures, electromagnetic interference on auto ignition systems.

Employer: **Illinois Environmental Protection Agency**, Springfield, IL
Position: District Environmental Engineer II
Duration: April, 1975 - August, 1976
Experience: Inspected manufacturing facilities and audited industrial air pollution sites in an eight county area. Automotive glass manufacture; reverberatory furnaces-float method and powerhouse; baghouses. Cement: furnaces, kilns crushing equipment, cyclones, packed beds, scrubbers, settling chambers, materials transfer. Chemical manufacturing processes: diammonium phosphate; nitric, sulfuric and phosphoric acids; sodium silicates; powered zinc for paints and coatings. Environmental controls stationary: cyclone separators, charcoal absorption systems; wastewater treatment and filtration; electrostatic precipitation; HiVol sampling. Food containers: sheet metal heating ovens, soldering, can coating equipment, dispersion and incineration. Glass containers manufacture: furnaces and casting equipment and controls. Power plants: coal-fired boilers, steam-driven and gas turbine generators. Sand processing: materials handling equipment, dryers, dust control equipment. Scrap metal processing of aluminum and precious metals. Automotive manufacturing and painting operations. Chemical cloud formation precipitated auto accident.

Employer: **Ford Motor Co.**, Automotive Emissions Office, Dearborn, MI
Position: Emission Test and Compliance Engineer
Duration: November, 1973 - January, 1975
Experience: Fleet instrumentation, testing, data analysis and diagnostic evaluation. Liaison between Ford and U.S. EPA on components failure analysis and negotiation of mutually acceptable problem resolution. Eight cylinder engine families - EPA certification. Safety and performance testing of automobile components. Engine maintenance diagnostic procedures. Honda CCVC engine emission evaluation.

Employer: **Universal Oil Products**, R&D Center, Des Plaines, IL
Position: Mechanical Engineer, Emission Test and Development Group Leader

Duration: December, 1970 - November, 1973
Experience: Emission control systems design and evaluation. Catalytic Reactor and containment systems. Vibrational effects on catalysts: computer analysis. Stoichiometric control systems and modeling. Design of over-temperature alarm for vehicle operators. Design Of Venturi air induction system and temperature control heat exchanger. Ice re-surfacing machinery and sanitation vehicles: catalyst technology. Chassis dynamometer operation an emission sampling equipment.

Employer: **Continental Can Co.**, R&D Center, Chicago
Position: Facilities Engineer
Duration: September-December, 1970
Experience: Plant facilities equipment procurement, space allocation and Charge back, computer program development.

Employer: **University of Illinois Physics Department**, Urbana
Position: Technical Draftsman
Duration: Summer, 1970
Experience: Ink drawings of technical materials for publication.

Employer: **Harry O. Hefter** Consulting Engineer, Chicago, IL
Position: Assistant Draftsman
Duration: Summers of 1968 and 69
Experience: Engineering drawings; review calculations, bills of materials.

PROFESSIONAL DEVELOPMENT

1. Business Law Courses, Northwestern University, Chicago, 1971-72; Masters in Mechanical Engineering Program, Evanston, IL, 1972-73
2. Sun Engine Equipment School, Inkster, MI, 1974; Wayne State University, Graduate Vibration Course, Dearborn, MI, 1974
3. Product Liability Professional Development Program, University of Michigan, Dearborn, MI, 1979
4. American Iron and Steel Institute, Ferrous Metal Industries Course, Dearborn, MI, 1980
5. Masters in Business Administration Program, University of Michigan, Dearborn, Spring 1980 and 81
6. Betz Wastewater Treatment Training Program on Operation of Blast Furnace Waste Water Treatment Plants, Clarifier and Reaction Tanks, Dearborn, MI, 1981
7. U.S. Bureau of Mines Seminars on Mining Equipment Safety, Denver, CO, 1982 and 83

8. Euclid Product Training School, Cleveland, OH, 1981
9. Construction Industry Manufacturers' Association (CIMA) Product Safety and Environmental Management Seminars 1981 and 83
10. Kent School of Law - Product Safety Seminar, Chicago, IL, March, 1984
11. Wastewater Cluster System Workshop, Argonne National Lab, IL, 1985
12. Hazardous Waste International Workshop, APCA, TS-6 Committee, Chicago, IL, 1985
13. Air Pollution Control Association Annual Meeting, 1985, Detroit, MI
14. Water Pollution Control Federation Annual Meeting, 1985, Kansas City, MO
15. International Workshop on Indoor Air Quality, November, 1985, APCA, Chicago, IL
16. Table Saw Techniques Seminar, Woodworld, Glenview, IL, April 12, 1986
17. Managing Indoor Air for Health and Energy Conservation - IAQ '86 Conference, ASHRAE, April 20-23, 1986, Atlanta, GA
18. International Off-Highway and Powerplant Congress and Exposition, Milwaukee, WI, SAE, September 1986.
19. Illinois Sixth Annual Occupant Protection Conference, Illinois Coalition for Safety Belt Use, Matteson, IL, September 1986.
20. American Institute of Chemical Engineers 1988 Spring National Meeting, Hazardous Materials and Process Safety Management Symposiums, March 8 and 9, 1988, New Orleans, Louisiana.
21. Chemical Manufacturers Association Workshop, Chemical Precaution Warning Seminar, ANSI Z129.1-1988 American National Standard for Hazardous Industrial Chemicals - Precautionary Labeling, Itasca, Illinois, April 21, 1988.
22. Pre-Conference Hazard Waste Seminar, sponsored by New Jersey Water Pollution Control Association Hazardous Waste Committee in Association with the Water Pollution Control Federation Hazardous Waste Committee, May 3, 1988, Atlantic City, N.J.
23. International Off-Highway and Power Plant Congress and Exposition, Milwaukee, WI, SAE, September 14, 1988.

24. Haztech International Exhibition and Conference 88, Cleveland Convention Center, Cleveland, OH, September 21, 1988.
25. Environmental Due Diligence for Lenders Seminar, Sponsored by Chapman and Cutler, and Infocast Incorporated, Chicago, Illinois, September 29, 1988.
26. Water Pollution Control Federation Annual Meeting and Exposition, Dallas, Texas, October 4, 1988.
27. National Safety Council Congress and Exposition, October, 17-19, 1988, Orlando, Florida.
28. What Every Environmental Professional Needs to Know, South Texas College of Law, Houston, Texas, May 15, 1989.
29. Water Pollution Control Federation Annual Meeting and Exposition, San Francisco, California, October 15-16, 1989.
30. International Off-Highway & Power Plant Congress and Exposition, Milwaukee, Wisconsin, SAE, September 12-13, 1989.
31. Air Pollution Control Association, Annual Meeting, Anaheim, California, June 1989.
32. National Safety Council Congress & Exposition, October 31, 1989, Chicago, Illinois.
33. National Safety Council, Power Press and Forging Committee Safety and Health Seminar, General Motors Training Center, Burbank, California, December 6, 1989.
34. U.S. Department of Energy, Office of Environmental Restoration and Waste Management, "Symposium on Applied Research, Development, Demonstration, Testing and Evaluation," San Francisco, California, December 13-14, 1989.
35. ORS Environmental Equipment Seminar on environmental monitoring and remediation equipment. Radisson Hotel, Arlington Heights, IL May 2, 1990.
36. Ford Motor Company Tour, Sterling Axle Plant, June 11, 1990, Sterling, Michigan. Observe machining operations, ventilation techniques, and environmental conditions.
37. International Off-Highway and Power Plant Congress and Exposition, Milwaukee, WI, SAE, September 12, 1990.

38. Water Pollution Control Federation Annual Meeting and Exposition, Washington, D.C., October 8, 9, and 10, 1990.
39. National Safety Council Congress & Exposition, October 29, 1990, Las Vegas, Nevada.
40. Metal Forming Machine Tool Safety Seminar, National Safety Council, Power Press & Forging Committee, December 5, 1990, Greenville, South Carolina.
41. Precision Metalforming Association Convention, Metalform 1992, Nashville, Tennessee, February 26, 1992.
42. Metal Forming Machine Tool Safety Seminar, National Safety Council, Power Press & Forging Committee, February 27, 1992, Nashville, Tennessee.
43. U.S. Department of Energy, "PEIS," Programmatic Environmental Impact Statement, Atlanta, Georgia, March 17, 1992.
44. U.S. Department of Energy, "ComDef '92 Workshop" Environmental Clean-Up Conference on International Defense Equipment Corporation, March 23-26, 1992, Norfolk, Virginia.
45. CACOSH Annual Conference, Chicago, Illini Union, University of Illinois at Chicago, May 2, 1992.
46. National Safety Council of Australia, Congress & Exposition, Adelaide, Australia, May 24- 27, 1992, Futuresafe 1992.
47. National Safety Council, Power Press, Forging & Metal Forming Committee Safety Seminar, Hilton Plaza Inn, Kansas City, Missouri, June 3, 1992.
48. Off-Highway and Power Plant Congress & Exposition, MECCA, Milwaukee, Wisconsin, September 16, 1992.
49. Water Environment Federation, Annual Conference and Exposition, New Orleans, LA, September 20-23, 1992.
50. Water Environment Federation, Pre-Conference Seminar, Confined Space Entry Programs, New Orleans, LA, September 20, 1992.
51. National Safety Council Congress & Exhibition, November 3, 1992, Orlando, Florida.
52. "Bioremediation of Hazardous Waste Sites: Practical Approaches to Implementation," U.S.E.P.A., Office of Research and Development, E.P.A./600/K-93/002 April 1993, attend June 10, 1993 Seminar, Holiday Inn, Chicago, Illinois.

53. Air and Waste Management Association, 86th Annual Meeting and Exhibition, June 14, 15, 1993, Denver, Colorado.
54. Off-Highway and Power Plant Congress and Exposition, MECCA, Milwaukee, Wisconsin, September 15, 1993.
55. Water Environment Federation, Annual Conference and Exposition, October 3, 1993 (Sunday), Anaheim, California.
56. National Safety Council Congress and Exposition, October 5, 1993, Chicago, Illinois.
57. International Poultry Exposition, Southeastern Poultry & Egg Association, Atlanta, Georgia, January 19 and 20, 1994.
58. National Safety Council Congress & Exposition, October 25, 1994, Chicago, Illinois.
59. Water Environment Federation, Annual Meeting and Conference, Chicago, Illinois, October 19, 1994.
60. National Safety Council Congress & Exposition, November 5 - 7, 1995, Dallas, Texas.
61. Hazard Communication Standard Awareness Training Program, Institute of Labor and Industrial Relations, University of Illinois, January 29, 1996, Serial #ILO12996HC.
62. International Manufacturing Technology Show, September 10, 1996, McCormick Place, Chicago, IL., sponsored by the Association for Manufacturing Technology and Society of Manufacturing Engineering.
63. Design Engineering Conference, March 12, 1997, McCormick Place, Chicago, IL., sponsored by National Association of Manufacturer and ASME.
64. National Safety Council, Automotive, Power Press, and Metals seminar 1999
65. National Safety Council Congress and Exposition, October, 14-17, 2000, Orlando, Florida., attend Human Factors Group & AMPS Section.
66. Board Of Certified Safety Professionals, November 2000, Participation in Examination Item Workshop, Schaumburg, IL
67. American Council on Indoor Air Quality, "Strategies for Conducting Meaningful Microbial IAQ Investigations," Two day seminar, Phoenix, AR, January 2001
68. MetalForm 2001 Symposium, Sponsored by Precision Metalforming Association

- Association and the American welding Society, May 9, 2001, Attend symposium in Cleveland, OH
- 69 National Safety Counsel Annual Meeting, Chicago, Il McCormick Place, September 9, 2003
- 70 "Creating a Safety Culture: Strategies for Small Business Training Programs," National Safety Council & OSHA, April 5, 2004

PAPERS / PRESENTATIONS / RESEARCH

1. Gary M. Hutter, "**Real-Time Data Analysis of Some Photochemical Smog Relationships,**" University of Illinois, Urbana, Department of Environmental Engineering, Master's Project 1977.
2. Gary M. Hutter, "**Small Businesses and Product Safety,**" Presentation to the Kiwanis Club, Dolton, IL, May 1, 1985. Oral presentation.
3. R.L. Barnett, G. Litwin, and G.M. Hutter, "**The Meat Grinder Safety Throat,**" Triodyne Safety Brief v. 3 #4 (September 1985): 1-6.
4. Gary M. Hutter, "**Applications of Physics in Forensic Engineering,**" Presentation at the American Association of Physics Teachers Conference, Chicago Section, DePaul University, October 26, 1985. Oral presentation.
5. Gary M. Hutter, "**Computers: Modeling, Databases, Training and Safety,**" Presentation to the Northeastern Illinois Chapter of the American Society of Safety Engineers, December 16, 1985. Oral presentation.
6. Gary M. Hutter, "**Active versus Retroactive Regulations: Criteria for Implementing a Safety Regulation,**" Standards Engineering v. 37 #6 (November/December 1985): 127-9, 136-8.
7. Gary M. Hutter, "**Low-Concentration Air Contaminants and Modeling of the Near Environment,**" Indoor Air Quality session at the American Society of Heating, Refrigerating and Air-Conditioning Engineers Conference, Atlanta, GA, April 21, 1986. Oral presentation and written presentation.
8. Gary M. Hutter, "**Antitrust, Unfair Trade Practices and Safety,**" Professional Safety, American Society of Safety Engineers, May 1986.
9. Gary M. Hutter, "**Environmental Pollution Control,**" sponsored by National League of Cities, Municipal Liability and Risk Management Seminar, Chicago, IL, May 21, 1986. Oral presentation.

10. **Curriculum Development for Machinery and Machine Guarding and Accompanying Guide Books and Instructor Manuals**, OSHA Contract BEF 51558, No.'s 1, 2, 4, 7 and 8, June 1986.
11. Gary M. Hutter and Cheryl A. Hansen, "**Mandatory Seat-Belt Usage Laws: Exemptions to the Rule,**" Triodyne Safety Brief, Vol. 4, No. 3 (November 1986): 1-5
12. Johnson & Johnson Corporate Health, Safety and Environment Training Conference; Institute for Advanced Safety Studies presentation, "**The Logic of Safety: A Role for Everyone,**" New Brunswick, New Jersey, January 14, 1987. Oral presentation.
13. Gary M. Hutter and Cheryl A. Hansen, "**With State Belt-Use Laws - Exemptions Are the Rule,**" Traffic Safety, National Safety Council, Vol 87, No. 2, March/April, 1987.
14. **Woodworking Machinery Importers Association Safety, Health & Environmental Seminar**, Sponsored by the Institute for Advanced Safety Studies, April 24, 1987, Niles, Illinois. Oral presentation.
15. **Forensic Tools in Environmental and Occupational Exposure to Contaminants Seminar**, Offered by the Environmental Activities Center, Triodyne Inc., Niles, IL., June 20, 1987. Oral presentation.
16. Gary Hutter, Jim Albers, Jack Hawkins, and Ken Reinebach, "**Report of Results of Ethylene Oxide Monitoring Performed at University of Illinois Hospital,**" provided to the School of Public Health and Environmental Health & Safety Office, University of Illinois, August 19, 1987.
17. Shelley Hamilton and Gary M. Hutter, Training Modules for Safety Management Training, for U.S. Occupational Safety & Health Administration, Contract BEF 70753, a) "**Project Minerva,**" b) "**OSHA Overview,**" October, 1987.
18. Gary M. Hutter, Training Module for Safety Management Training, for U.S. Occupational Safety and Health Administration, Contract BEF 70753, "**Measuring Safety and Health Performance,**" October, 1987.
19. Gary M. Hutter, "**Soil Sampling for Environmental Contaminants,**" Seminar presented at the School of Public Health, Environmental and Occupational Health Seminar, University of Illinois at Chicago, February 29, 1988. Oral presentation.
20. Gary M. Hutter, "**The Role of Epidemiological Studies in Evaluating Health Risks from Hazardous Materials,**" presented at the Spring National Meeting, March 9, 1988 of the American Institute of Chemical Engineers, Hazardous Waste Symposium, New Orleans, Louisiana. Oral presentation and written presentation.

21. Gary M. Hutter, Navistar International Transportation Corporation, **"Safety Seminar, Springfield Plant's Finishing System,"** Springfield, Ohio, March 19, 1988. Oral presentation.
22. Gary M. Hutter, **"Soil Gas Analysis and In-Soil Diffusion Coefficients"** presented at Haztech International Exhibition and Conference 88, Hazardous Waste and Hazardous Materials Management, Cleveland Convention Center, Cleveland, Ohio, September 21, 1988. Oral presentation.
23. Gary M. Hutter, **OSHA Public Comment on Proposed Guidelines for General Occupational Health and Safety.** Written presentation. Comments dated September 29, 1988, oral presentation by Mr. Peter Barroso, Jr., on October 6, 1988 in Des Plaines, Illinois.
24. Gary M. Hutter, **"Presence Sensing Device Initiation and Machine Tools,"** meeting presentation before Chicago Area Committee on Occupational Safety and Health, at Karl Mayer Hall, Cook County Division of Occupational Medicine facilities, Chicago, Illinois February 25, 1989. Oral presentation.
25. Gary M. Hutter, **"Machine Tool Industrial Hygiene Considerations,"** Spring Meeting at University Club, Chicago, Illinois, April 19, 1989. Oral presentation.
26. National Safety Council, Power Press and Forging Committee Newsletter, **"Health Hazards in the Press Room,"** based on article materials provided by G. M. Hutter, May/June 1989.
27. R. L. Barnett, G. Litwin, G.M. Hutter, **"Safety Threats for Meat Grinding Equipment,"** Transactions of the ASME, Journal of Engineering for Industry, Vol. 111, No. 3, August 1989, p. 262-268.
28. Gary M. Hutter, **"In-Soil Diffusion Coefficients,"** Guest Lecturer at the School of Public Health, Environmental and Occupational Health Studies, October 1989, HE 307, Management of Solid and Hazardous wastes. Oral presentation.
29. Gary M. Hutter, **"Environmental and Industrial Hygiene Considerations in Machine Room Operations,"** National Safety Council Meeting, Chicago, Illinois, October 31, 1989. Oral presentation.
30. Gary M. Hutter, **"Industrial Hygiene in the Press Room,"** National Safety Council, Power Press and Forging Committee, General Motors Training Center, Burbank, California, December 6, 1989. Oral presentation.
31. Gary M. Hutter, **"Noise Abatement,"** National Safety Council, Power Press and Forging Committee, General Motors Training Center, Burbank, California, December 6, 1989. Oral presentation.

32. Gary M. Hutter, "**New Proposed OSHA Confined Space Standard**," National Safety Council, Power Press and Forging Newsletter, March/April 1990.
32. Gary M. Hutter, "**OSHA's Draft of Ergonomic Guidelines**," National Safety Council, Power Press and Forging Newsletter, March/April 1990.
33. Gary M. Hutter, "**Technical Considerations Associated with Slip and Trip Accidents**," Indiana Continuing Legal Education Forum, February 16, 1990. Oral presentation.
33. Gary M. Hutter, "**Industrial Hygiene in the Machine Tool Area**," National Safety Council, Power Press & Forging Committee, Metal Forming Machine Tool Safety Seminar, Wakefield, Massachusetts, March 7, 1990. Oral presentation.
36. Gary M. Hutter, Gary R. Brenniman, "**In-Soil Diffusion Coefficient Measurements of Trichlorethylene and n-Butane**," U.S.E.P.A. sponsored research, Advanced Monitoring System Division, Project No. OV-0379, April 1990.
37. Gary M. Hutter, "**Routes of Entry of Contaminants**," National Safety Council, Power Press & Forging Committee Newsletter, May/June 1990 (Note error in citation to Paul Myers, see July/August 1990 Newsletter).
38. Gary M. Hutter, "**Stay Current on Standards and Keep Everyone Safe**," National Safety Council, Power Press and Forging Committee Newsletters July/August 1990. (Addresses Industrial Hygiene Standards in Machine Tool Industry).
39. Gary M. Hutter, "**Know What's in the Air - It May Be Harmful**," National Safety Council, Power Press and Forging Committee Newsletter, Sept/Oct. 1990 (Addresses air quality measurement consideration in the Machine Tool Industry.)
40. Gary M. Hutter, "**In-Soil Diffusion Coefficients**," Guest Lecturer at the School of Public Health, Environmental and Occupational Studies, October 1990, HE 307, Management of Solid and Hazardous Wastes. Oral presentation.
41. Gary M. Hutter, "**Control Considerations to Reduce Occupational Exposure in the Machine Tool Industry**," National Safety Council, Power Press and Forging Committee Newsletter, Nov/Dec 1990.
42. Gary M. Hutter, "**In-Soil Diffusion Coefficient Measurements of Trichlorethylene and N- Butane**," Ph.D. Dissertation, October 12, 1990, University of Illinois.
43. Gary M. Hutter, "**Industrial Hygiene In the Machine Tool Room**,"

- National Safety Council, Annual Meeting, Las Vegas, Nevada, October 31, 1990. Oral presentation.
44. Gary M. Hutter, "**Occupational Exposures (Air & Noise) in the Machine Tool Area,**" National Safety Council, Power Press & Forging Committee, Metal Forming Machine Tool Safety Seminar, Greenville, South Carolina, December 5, 1990. Oral presentation.
 45. Gary M. Hutter, "**What EPA Requires for Underground Storage Tanks,**" National Safety Council, Power Press & Forging Committee Newsletter, March/April 1991.
 46. Gary M. Hutter, "**Industrial Occupational Exposures (Hygiene) in the Machine Tool Area,**" National Safety Council, Power Press & Forging Committee, Metal Forming Machine Tool Safety Seminar, Rosemont, Illinois, March 14, 1991. Oral presentation.
 47. Gary M. Hutter, "**Should Safety Regulations be Active or Retroactive?'**" National Safety Council, Power Press & Forging Committee Newsletter, May/June 1991.
 48. Gary M. Hutter, "**Industrial Hygiene in the Machine Tool Room,**" Mechanical Power Press Seminar, Sponsored by the Metal Trades Accident Prevention Association, in conjunction with the National Safety Council, Power Press & Forging Committee, and the Essex, Kent & Western Ontario Divisions of IAPA June 5, 1991. Oral presentation.
 49. Gary M. Hutter, "**OSHA Issues Standard for Non-production Labs,**" National Safety Council, Power Press & Forging Committee Newsletter, July/August 1991.
 50. Gary M. Hutter, "**OSHA sets new standard for Cadmium,**" National Safety Council, Power Press & Forging Committee Newsletter, July/August 1991.
 51. Gary M. Hutter, "**In-Soil Diffusion Coefficients,**" Guest Lecturer at the School of Public Health, Environmental and Occupational Studies, September 10, 1991, HE 307, Management of Solid and Hazardous Wastes. Oral presentation.
 52. Gary M. Hutter, Gary R. Brenniman, Robert J. Anderson, "**Measurement of the Apparent Diffusion Coefficient of Trichloroethylene in Soil,**" October 10, 1991, Water Pollution Control Federation, Annual Meeting, Toronto, Canada - Oral presentation and written presentation.
 53. Gary M. Hutter, "**Industrial Hygiene in the Machine Tool Room,**" October 9, 1991, National Safety Council Annual Meeting. New Orleans, Louisiana. Oral presentation.
 54. Gary M. Hutter, "**Airborne Contaminants in the Machine Tool**

- Industry,"** August 1991, Triodyne Safety Brief, ISSN 1041-9489, Vol. 7 No. 1.
55. Gary M. Hutter, Gary R. Brenniman, Robert J. Anderson, "**Measurement of the Apparent Diffusion Coefficient of Trichlorethylene in Soil,"** Water Environment Research, Jan/Feb 1992, pg. 69-77.
 56. Gary M. Hutter, "**Industrial Occupational Exposures (Hygiene) in the Machine Tool Area,"** February 27, 1992, National Safety Council, Power Press & Forging Committee, Metal Forming Machine Tool Safety Seminar, Nashville, Tennessee. Oral presentation.
 57. Gary M. Hutter, "**Confined Space Entry,"** Chicago Area Committee on Occupational Safety and Health, Annual Conference, University of Illinois, Chicago, May 2, 1992. Oral presentation.
 58. Gary M. Hutter, "**Case Study of a Confined Space Entry Accident,"** Safety and Health Bulletin, Water Environment Federation, Vol. 1, No. 2, Summer 1992, pg. 6-7.
 59. Gary M. Hutter, "**Occupational Exposures, Confined Space, Vapor Degreasers, and International Standards in Industrial Operations,"** National Safety Council of Australia, Futuresafe 92 Congress & Exposition, May 24-27, 1992, Adelaide, South Australia. Oral presentation.
 60. Gary M. Hutter, "**Confined Space Entry and the New Proposed OSHA Regulation - A Consultants Perspective,"** Confined Space Entry Program, Water Environment Federation, New Orleans, Louisiana, September 20, 1992. Oral presentation and written presentation.
 61. "**Supervisor's Guide to Safety and Health Programs,"** Water Environment Federation, Gary M. Hutter, contributor, 1992.
 62. Journal of Occupational Medicine, Re: "**Warehouse Workers' Headache,"** Letters to the Editor, by Gary M. Hutter, September 1992, Volume 34, No. 9, pages 870-871.
 63. Gary M. Hutter "**Soil Gas/Diffusion,"** Guest Lecturer School of Public Health, University of Illinois, September 8, 1992, Environmental & Occupational Health Studies, EOHS 472, Management of Solid and Hazardous Waste. Oral presentation.
 64. Gary M. Hutter, "**Industrial Hygiene In Plants That Use Machine Tools,"** National Safety Council, Annual Meeting, Orlando, Florida, November 3, 1992. Oral presentation.
 65. Gary M. Hutter, Gary R. Brenniman, Robert J. Anderson, "**Model Developed to Locate TCE Contamination,"** Water Environment &

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66. Gary M. Hutter, **Permit-Required Confined Spaces**, Supplemental Information, Background; published comments in the Federal Register Vol. 58, No. 9, January 14, 1993, pg. 4509 (as Triodyne Environmental Engineering).
 67. Gary M. Hutter, **"UAW-GM Investigate Machining Fluids Effects,"** National Safety Council, Power Press & Forging Committee Newsletter, March/April 1993.
 68. Gary M. Hutter, **"Industrial Occupational Exposures (Hygiene) in the Machine Tool Area,"** National Safety Council, Power Press & Forging Committee, Metal Forming Machine Tool Safety Seminar, Rosemont, Illinois, March 18, 1993. Oral presentation.
 69. Gary M. Hutter, Gary Brenniman, **"Measurement of the Apparent Diffusion Coefficient of N-Butane in Soil,"** Journal of Soil Contamination, pp 137-155, Vol. 2/No. 2, July 1993.
 70. Gary M. Hutter, **"Industrial Hygiene in Plants that use Machine Tools,"** National Safety Council, Annual Meeting, Chicago, Illinois, October 5, 1993. Oral presentation.
 71. Gary M. Hutter, **"Product Engineering and Liability Seminar,"** for Liberty Mutual Insurance Co. at Triodyne Inc., November 2, 1993. Oral presentation.
 72. Gary M. Hutter, **"Industrial Occupational Exposures (Hygiene) in the Machine Tool Area,"** National Safety Council, Nashville, Tennessee, March 10, 1994. Oral presentation.
 73. Gary M. Hutter, **"Occupational and Environmental Exposures to Contaminants,"** Notre Dame University, AME 340, Design of Machine Elements, South Bend, Indiana, March 18, 1994. Oral presentation.
 74. Gary M. Hutter, **"Hazardous Exposures in Machine Tooling,"** Occupational Health & Safety - Canada, July-August, 1994, pg. 66-68.
 75. **"Safety and Health in Wastewater Systems,"** a principal co-author, Gary M. Hutter, Water Environment Federation, Manual of Practice, SM-1, Operations and Maintenance Subcommittee, 1994.
 76. Gary M. Hutter **"Soil Gas/Diffusion,"** Guest Lecturer School of Public Health, University of Illinois, September 15, 1994, Environmental & Occupational Health Studies, EOHS 472, Management of Solid and Hazardous Waste. Oral presentation.

77. **"Confined Space Entry,"** principal co-author, Gary M. Hutter, Water Environment Federation, Special Publication, Operations and Maintenance Subcommittee.
78. Gary M. Hutter, **"Basic Considerations of Human Factors Engineering in Evaluating Systems, Information and Displays,"** Water Environment Federation Annual Meeting, Technical Professional Development, Chicago, Illinois, October 19, 1994. Oral and written presentations.
79. Gary M. Hutter and Diane Moshman, **"Comparison Among Lead Paint Field Screening Test Methods,"** Journal of Hazardous Materials, January 1995, pp. 1-13.
80. Gary M. Hutter and Stewart Vaughn, **"Pollution Prevention Diagnostic Assessment, MASERA, Quito, Ecuador,"** prepared for RCG/Hagler, Bailly Inc., Arlington, VA, for the United States Agency for International Development, February 2, 1995 (automotive and truck assembly facility).
81. Gary M. Hutter and Stewart Vaughn, **"Pollution Prevention Diagnostic Assessment, AYMESA, Quito, Ecuador,"** prepared for RCG/Hagler, Bailly Inc., Arlington, VA, for the United States Agency for International Development, February 2, 1995 (automotive and truck assembly facility).
82. Gary M. Hutter, **"Paint Application Systems for Different Surfaces, Specially Metallic Ones,"** for OIKOS Corporation, Quito, Ecuador, February 20, 1995 (part of U.S.A.I.D. activities).
83. Gary M. Hutter, **"Engineering Ethics,"** ASME Meeting and Conference, University of Notre Dame, Indiana, March 24, 1995. Oral presentation.
84. Gary M. Hutter, **"Industrial Hygiene in Plants that Use Machine Tools,"** National Safety Council Annual Meeting, Dallas, Texas, November 7, 1995. Oral presentation.
85. Gary M. Hutter, **"Occupational Exposure Concerns in Metal Operations,"** All-Ohio Safety & Health Congress & Exhibit, April 4, 1996, Cleveland, OH. Oral presentation.
86. Gary M. Hutter, **"Industrial Hygiene in the Machine Tool Room,"** National Safety Council, Windsor, Ontario, Canada, July 5, 1996.
87. Gary M. Hutter, **"Identifying the Occupational Hazards of Machine Tooling,"** Safety Compliance Letter, June 15, 1996, No. 2260, Bureau of Business Practice, Waterford, Connecticut.
88. **"How Three Safety Managers Met the Environmental Challenge,"** by Mike Hans, Safety & Health, National Safety Council, Volume 14, No. 5, Nov. '96. Interview.

89. Gary M. Hutter, "**Industrial Hygiene In Plants That Use Machine Tools,**" National Safety Council, Annual Meeting, Chicago IL, Nov. 1997. Oral presentation.
90. Gary M. Hutter, "**Soil Contamination - Soil Gas Modeling and Diffusion Coefficients,**" Illinois Institute of Technology Seminar, 131 Perlstein Hall Auditorium, Feb. 4, 1998. Oral presentation.
91. Gary M. Hutter, "**Air Contaminant Movement and Dilution in the Atmosphere,**" SAFE Journal June 1999
92. WGN TV, Chicago, IL., news story **on environmental pollution** from Indiana facility, May 16, 2000
93. Gary M. Hutter, "**OSHA Regulations, Seminar**" at Densply International, Des Plaines, IL , October 20, 2000, Oral presentation
94. Gary M. Hutter, "**Earthmoving Equipment - An Operator's Field of View (S.A.E. Standard J1091)**" SAFE Journal, September, 2000
95. WTTW TV, Chicago, IL., in-depth news story on **asthma and related indoor air quality November, 2000, Oral presentation**
96. Gary M. Hutter, "**Metal Working Fluids,**" Metalform 2001 Symposium, May 9, 2001, Cleveland, Ohio, Sponsored by Precision Metalforming Association and American Welding Association
97. Gary Hutter, "**Power Press Safety Manual,**" contributing author and reviewer, National Safety Council, 5th Edition, 2002
98. Gary Hutter, "**Safeguarding Illustrated Concepts,**" 7th Edition, contributor, reviewer and editor, National Safety Council, 2002
99. Gary Hutter, **Metalworking Fluids: Occupational Exposures, Including Biological Contaminants: Part 1,** American Society of Safety Engineers, Environmental Practice Specialty Newsletter, Spring 2004, Vol. 3, No. 3
100. Gary Hutter, "**Safeguarding Machines with an Ergonomic Spin,**" Stamping Journal, Vol. 16 No. 5 June 2004

Exemplar Safety Related Consultation Tasks (Since 1986):

1. For Federal OSHA - Review and author safety training materials, '86.
2. For Packaging Manufacturing - Evaluate equipment hazards, '87.
3. For Truck Manufacturer - Provide facility safety audit, '88.
4. For Military Contractor - Review safety standards on robotic operations,

- '88.
5. For Foundry Equipment Manufacturer - Analysis of chemical purging equipment, '88.
 6. For County-wide Waste Water Treatment Agency - Addressed selected safety and training issues, '88.
 7. For Major Sanitary District - Provide analysis of contract safety requirements, '88.
 8. For Transportation Equipment Manufacturer - Evaluate safety considerations, '88.
 9. For Roadway Equipment Manufacturer - Commentary and philosophy on written safety materials, '88.
 10. For Steel Mill Equipment Manufacturer - Identify equipment hazards and safety options, '89.
 11. For Major Fast-Food Equipment Manufacturer - Identify equipment hazards and safety options, '89.
 12. For Portable Tool Manufacturer - Review product function/literature '89.
 13. For Packaging Supplier - Analysis of product labeling, '89.
 14. For Asphalt Trucker Group - Identify government requirements for safety, '89
 15. For Federal Government Agency - Contract services on formaldehyde emissions, '90.
 16. For Carpentry Contractors Association - Analysis and investigation OSHA recommendations, '90.
 17. For Real Estate Activities - Perform environmental assessments, '88 to present.
 18. For Conveyor/Material Handling Equipment Manufacturer - Commentary and philosophy on written safety materials '90, '91.
 19. For Community Right-to-Know purposes - perform chemical plant evaluations '91.
 20. For Federal Agency, present and review materials on environmental contamination problems '90, '91, '92, '93, '94, '95, '96.
 21. For Food Processing Equipment Manufacturer, provide safety related documentation, '91, '92, '93, '94, '95, '96.

22. For Wastewater Treatment Equipment Manufacturer, provide analysis of selected wastewater equipment, 1993, '94.
23. For Chemical equipment manufacturers - perform analysis of storage and handling equipment 1995.
24. Triodyne Environmental Engineering Reference Data Sheets; Carbon Monoxide, Chlorinated Solvents, Lead, Sewer Gases, Formaldehyde, Hazardous Materials, Mercury, Material safety Data Sheets, Aluminum, Inert Atmospheres, 1992 to present.
25. For DOD contractor - perform analysis of robotic welding installation, '95.
26. For Metallurgical Pump Manufacturer - perform analysis of pump operation '96.
27. For Metal Tubing Manufacturer - perform analysis of OSHA compliance '96.
28. For Aluminum Refiner, perform risk assessment of use of LNG fueled forklift trucks '98
29. For manufacturer of pharmaceutical equipment perform safety related analysis of product lines and safety criteria 1998/ 1999
30. For meat processor, perform human factors time study at multiple facilities.1997/ 2000
31. For facility operator, test for biological air contaminants, 2000
32. For medical/ dental equipment manufacturer, provide technical information on product safety 2000
33. For commercial building, conduct IAQ survey for biological contaminants 2000 Chicago area
34. For commercial building, conduct IAQ survey for biological contaminants 2000 Peoria, Il area
35. For commercial building, conduct IAQ survey for biological contaminants 2001 Chicago area
36. For product manufacturer provide technical support in environmental compliance 2001
37. For cement component manufacturer, perform air and chemical sampling and thermal surveys to determine occupational exposure levels, 2002 & 2003
38. For Battery and Printing firm, conduct analysis and permit compliance evaluations 2003

Codes/Standards/and Guidelines
Reviewed/Voted On/or Solicited Comments (Since 1989)

1. WPCF MOP SM-8 **Emergency Planning for Municipal Water Facilities,**
Reviewer '89.
2. SAE J1166 **Sound Measurement - Off-Road Self Propelled Work**
Machines Operator-Work Cycle 3/90, Affirmative Vote.
3. ANSI B165.1 **Safety Requirements for Design, Care and Use of Power-**
Driven Brushing Tools 2/90, Affirmative Vote.
4. SAE J1535 **Performance Test for Windshield Defrosting Systems for**
Off-Road Work Machine 3/90, Affirmative Vote.
5. SAE J1013 **Measurement of Whole Body Vibration of the Seated**
Operator Off- Highway Work Machines 4/90, Affirmative
Vote.
6. SAE J1091 **Measurement of Operators Visibility 4/90, 7/90,**
Affirmative Vote.
7. National Safety Reviewer and Contributor to Volume 1,
Council Accident Chapter 16 "**Planning for Emergencies,**"
Prevention Manual May 19, 1990, Affirmative Vote.
for Industrial
Operations
8. SAE J2107 **Intermittent Alarm Detection Zone, 2/90, Negative Vote.**
9. SAE J154 **Operator Space Envelope Dimensions for Off-Road**
Machines, July 1990, Affirmative Vote.
10. SAE J2105 **Acoustics - Measurement of Noise Emitted by Earth**
Moving Machinery at the Operator Station, July '90,
Affirmative Vote.
11. SAE J2104 **Acoustics - Measure of External Noise Emitted by**
Earth Moving Equipment, July '90, Affirmative Vote.
12. SAE J2103 **Acoustics - July '90 - Limits for External Noise, July**
'90, Affirmative Vote.
13. SAE J2103 **Acoustics - Limits for External Noise, July '90, Affirmative**
Vote.
14. SAE J2102 **Acoustics - Stationary Test, July '90, Affirmative**
Vote.

A special publication prepared by Task Force on Biological Hazards, 1991. Contributor/reviewer.

28. National Safety Council, Data Sheet
"Mechanical Power Press Point of Operation Safeguarding Concepts," #I-710-86
February 26, 1992. Reviewer.
29. Water Environment Federation Committee,
Draft WEF Position on **"Environmental Auditing"** requested commentary for Hazardous Waste their July 7, 1992 memorandum. Vote on Position Paper on Environmental Audits 8/21/92.
30. ASTM E.50.02 Committee
E50.02.2 **"Standard Practice for Environmental Site Assessments: Phase 1 Environmental Site Assessment Process,"** Affirmative Vote (8/26/92)
Item 1.
31. ANSI B11
"Ergonomics Guideline Document" Affirmative Vote (1/21/93)
32. ASTM D4675-92
"Standard Guide for Selection and Use of Flat Strapping Materials," (1/22/93) Affirmative Vote
33. NSC Data Sheet
"Safe Lubrication of Industrial Machinery," OS&H Data Sheet (new) Affirmative Vote, 1/16/93.
34. SAE J1091/
"Operator's Field of View - Test Method"
ISO 5006 Affirmative Vote 3/20/93
35. ASTM D10.11
"Standard Practice for Pictorial Markings for Handling Goods" ASTM Standard, Draft 4 dated 12/28/92, Affirmative Vote 3/17/93.
36. SAE J1083
"Unauthorized Starting or Movement of Machine,"
Affirmative Vote 3/17/93.
37. SAE J1012
"Operator Enclosure Pressurization System Test Procedure," Affirmative Vote 3/17/93.
38. SAE J115
"Safety Signs," Affirmative Vote 6/7/93.
39. SAE J1362
"Graphical Symbols for Off-Road Self-Propelled Work Machines," 9/20/93, Affirmative Vote.
40. ASTM E50.03.1
"Guide for Development and Implementation of A Pollution Prevention Program," 10/15/93, Affirmative Vote.

41. ANSI B11 TR-1 1993 **"Ergonomic Guidelines for the Design, Installation and Use of Machine Tools,"** Contributing author and reviewer of ANSI Technical Report, December 1993.
42. ASTM D10.18 (93-01) **"New Standard Practice for Label Adhesion Integrity, Testing of Pressure Sensitive Labels for Consumer Packages,"** ANSI Subcommittee Ballot, 12/21/93, Affirmative Vote.
43. ASTM E50.01 (94-01) **"Guide for Accelerated Site Characterization for Confirmed or Suspected Petroleum Releases,"** Subcommittee Ballot, 2/17/94, Affirmative Vote.
44. SAE J1665 **"Earthmoving Machinery Operating Modes for Use in Determining Whole Body and Hand/Arm Vibration Levels,"** 2/24/94 Affirmative Vote.
45. ASTM E50.01 **"ASTM Guide for Risk-Based Corrective Action at Petroleum Subcommittee Release Sites,"** Administrative Letter Ballot, Affirmative Vote, 5/20/94.
46. SAE J153 **"Operator Precautions,"** Affirmative Vote, 6/24/94.
47. ASTM **"Standard Guide for the Use of Coal Combustion Fly Ash in Structural Fills,"** Negative Vote, 9/19/94.
48. SAE J1799 **"Earth-Moving Machines, Mirrors - Field of Vision at Ground Level,"** letter ballot to HFTC-SC-3, 11/1/94, Disapprove.
49. National Safety Council Advisory Committee member for Symposium **"Contemporary Challenge: The Safety Professional's Role in Environmental Management,"** Chicago, IL, April 20-21, 1995.
50. SAE J2331 **"Operator's Field of View - Engineering Evaluation,"** Letter ballot to SAE, Ref #96-690, August 27, 1996.
51. SAE J/ISO 9244 **"Earthmoving Machinery - Safety Signs & Hazard Pictorials General Principles,"** letter ballot to HFTC September 17, 1997, Affirmative Vote, Ref. NO. 97-631.
52. SAE J/ISO 13200 **"Cranes - Safety Signs and Hazard Pictorials - General Principles,"** Letter ballot to HFTC, September 17, 1997, Affirmative Vote, Ref. No. 97-633.
53. SAE J/ISO 11684 **"Agricultural Tractors & Specialized Forestry Machinery -**

- Safety Signs & Hazard Pictorials General Principles”**
Letter ballot to HFTC, September 17, 1997, Affirmative Vote,
Ref. No. 97-632.
54. SAE J1091 **“Earthmoving Machinery - Operator’s Field of View,”**
Letter ballot to HFTC, September 2, 1997, Affirmative
Vote, Ref. No. 97-605.
55. ASTM D3332 **“Test Method for Mechanical Shock Fragility of
Products Using Shock Machine,”** September 9, 1997,
Affirmative Vote.
56. ASTM Dxxxx **“Standard Guide for Transport Packaging Design”**
September 9, 1997, Affirmative Vote.
57. NSC National Safety Council, Ergonomics / Human Factors
ERGO/H.F. Committee. Positive ballot on Proposed
American National Committee Standard, Z365 **“Control of
Cumulative Trauma Disorders”** Position paper July 7, 1998.
58. Anti-Scalding Position Paper on the mandatory application of **anti-scald
Article Challenge** **valves in residential applications.** Published in PM
Engineering magazine, January/ February, 1999, pg. 4-7.
Business News Publishing Co., Troy, MI
59. ANSI MN 26.1 **“For Industrial Metal Containers - Specifications”**
Revision date September 28, 1999, reviewer and solicited ballot
by the Industrial Metal Container and Wire Decking Association.
, Affirmative Vote
60. ANSI BSR MH30.1 **“For the Safety, Performance, and testing of Dock
Leveling Devices,”** Reviewer and solicited ballot by
Loading Dock Equipment Manufacturers, November 30,
1999, Affirmative Vote
61. ANSI MH24.1 **“Safety Standard for Horizontal Carousel Material Handling
and Associated Equipment”** Reviewer and solicited ballot
Material Handling Equipment of America, February 7, 2001,
Negative vote
62. ASTM Ref Z8314Z **“ Guide to Hydraulic Integrity of New, Repaired or
E50.01 committee** **Reconstruction Aboveground Storage Tank Bottoms for
Petroleum Service,”** Proposed Standard February 20, 2001,
reviewer and solicited ballot by the E 50 Committee
63. ANSI BSR MH29.1 **“Safety Requirements for Industrial Scissors Lifts,”** January 9,
2001 reviewer and solicited ballot by the Material Handling
Industry of America, Negative vote

64. ANSI BSR MH27.1 **“Specifications for the Patented Track Underhung Cranes and Monorail Systems,”** June 4, 2001, reviewer and solicited ballot by the Material Handling Industry of America, Affirmative Vote
65. ANSI BSR MH27.2 **“Specifications for Enclosed Track Underhung Cranes and Monorail Systems,”** March 7, 2001, reviewer and solicited ballot by the Material Handling Industry of America, Affirmative Vote
66. ASTM 50.01 **"An Electrochemical and Forensic Guide for Evaluating Above Ground Storage Tank Bottoms"**, July 2002, Affirmative vote
67. BSR MH24.1 **“Safety Standard for Horizontal Carousel Material Handling and Associated Equipment”** Version #6, second canvass round of balloting , “Approval vote, October 2002
68. ANSI Draft **“ Draft Standard - The North American Performance Standard for Casters and Wheels,”** Version 17, January 2003, Institute of Caster Manufacturers, Charlotte, North Carolina Approval Vote
69. ANSI MH 16.1 **“Specifications for the Design, Testing and Utilization of Industrial Steel Storage Racks,”** Reviewer and solicited ballot by Rack Manufacturer’s Institute/ Material Handling Institute of America, Jan 2004 Affirmative Vote w/ comments