

## RESUME: MILTON MECKLER, P.E.

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### EDUCATION

**M.S.E.**, The Horace H. Rackham School of Graduate Studies, University of Michigan

**B.S.E.**, Worcester Polytechnic Institute (**with Distinction**)

### REGISTRATIONS (Current and Former)

Registered Engineer in Alaska, Arizona, California, District of Columbia, Guam, Pennsylvania, Hawaii, Illinois, Louisiana, Michigan, Nevada, New York, Ohio, Oklahoma, Texas, New Jersey, Florida, Oregon and Connecticut. California licensed Contractor. Examples include:

State of California State Board of Registration for Professional Engineers:

Professional Engineer - **Chemical Engineer** (License No. 2741)

Professional Engineer - **Mechanical Engineer** (License No. 13353)

Professional Engineer - **Industrial Engineer** (License No. 3895)

Professional Engineer - **Manufacturing Engineer** (License No. 398)

California-licensed **General Engineering and General Building Contractor**, **with additional Certification: Hazardous Substance Removal and Remedial Action and Home Improvement**. Contractors State License Board, State of California, Department of Consumer Affairs (License No. 353739):

Class B (General Building)

Class A (General Engineering)

Class HAZ (Hazardous Substance Removal and Remedial Action)

State of Florida Board of Professional Engineers

Professional Engineer – Mechanical Engineer ( License No. 57294)

Oregon State Board of Engineering Examiners:

Professional Engineer - **Chemical Engineer** (License No. 17366)

Professional Engineer - **Environmental Engineer** (License No. 17366)

Professional Engineer - **Industrial Engineer** (License No. 17366)

Professional Engineer - **Manufacturing Engineer** (License No. 17366)

Professional Engineer - **Mechanical Engineer** (License No. 17366)

Ohio State Board of Registration for Professional Engineers and Land Surveyors  
– Professional Engineer (License No. 25201 )

State of New Jersey- Professional Engineer-Mechanical  
(License No. 24GE03145500)

Texas State Board of Registration for Professional Engineers-Professional  
Engineer-Mechanical ( License No. 43205)

Illinois Department of Registration and Education- Professional Engineer  
(License No. 62-36086)

National Council of State Boards of Engineering Examiners (NCEES) –  
Certificate of Qualification (No. 2846)

## SUMMARY

Mr. Meckler, currently President of Design Build Systems and Principal of Meckler Forensic Group was formerly a Principal of P2S Engineering, and has been involved in all aspects of consulting engineering services, including executive management, mechanical, chemical, industrial, manufacturing, environmental engineering, ergonomics and human factors, telecommunications ,fire protection, plumbing, general building and engineering, human factors and ergonomics ,construction management and safety, code compliance and standards interpretation; he is a recognized authority in these disciplines.

Mr. Meckler, a principal of several well-known multidiscipline engineering firms, was a founding principal of Envirodyne Engineers (subsequently known as Consoer, Townsend Envirodyne Engineers, Chicago). He was president of Meckler Associates, a multidisciplinary consulting firm, and Envirodyne Energy Services, specializing in the design, construction, startup, operation and maintenance of cogeneration plants and other on-site energy systems. He was also president of The Energy Group (a subsidiary of Welton Becket Associates), where he provided technical expertise in various capacities for a wide variety of major clients.

He has served as a consultant at various times (1975-1989) to the California Energy Commission. Since 1977, he has served **American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE)** as a member of several national standards, code writing and technical committees referenced elsewhere. He is also **Fellow** of ASHRAE as well as **American Institute of Chemists (AIC)**, **American Society of Mechanical Engineers**

(ASME), **National Academy of Forensic Engineers** (NAFE).

His recent activities include innovative and cost-effective design of HVAC, plumbing, seismic restraint, cogeneration, life safety and energy management systems, construction management for major industrial, commercial, governmental, institutional and residential projects in the southwestern and other states.

Mr. Meckler has published over 325 feature and technical articles, books, handbooks, videos, design and policy manuals. He has also lectured extensively, and holds in excess of 40 U.S. and foreign patents.

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## **WORK EXPERIENCE**

### **P2S Engineering, Inc., Principal**

#### **Multi-Discipline Expert**

Mr. Meckler received the professional designation of Certified Professional Constructor (CPC) by the American Institute of Constructors Certification Commission (AICCC) in 1994 and was recently re-certified by AICCC for an additional 4 year term. He was one of an initial group of 200 construction management practitioners throughout the United States to be certified in a program developed by national construction trade and professional associations under the auspices of the American Institute of Constructors. A graduate of Worcester Polytechnic Institute "With Distinction" (with a BSE) and the Horace H. Rackham School of Graduate Studies, University of Michigan (with a MSE), he was elected to both Tau Beta Pi (engineering) and Sigma Xi (scientific research) honorary societies; and is listed in American Association of Engineering Society's Who's Who in Engineering.

He is involved in all aspects of services provided by above firms, including mechanical, chemical, industrial, manufacturing, environmental and forensic engineering, fire protection, plumbing, general building and engineering construction, construction management and safety, code compliance and standards interpretation, and is a recognized authority in these disciplines.

As an active member of the Human Factors and Ergonomics Society (HFES), Mr Meckler also serves on the following nine ( 9) HFES Task Groups: Cognitive Engineering , Communication , Environmental Design , Forensic Professional , Human Performance Modeling , Industrial Ergonomics , Performance and Perception , Product Design and Safety.

#### **Related Litigation/ Arbitration Experience**

Mr. Meckler has also assisted in litigation and arbitration matters related to engineering, construction, construction management and safety, energy, products liability, failure analysis, fire and accident reconstruction, indoor air quality, claims analysis, human factors and ergonomics ,intellectual property, air and waste

management and related safety issues. He has the proven ability to correctly diagnose problems and has provided thorough analyses on complex and difficult cases.

### Various Services for Different Clients

**The Energy Group** (a subsidiary of **Welton Becket Associates, Architects and Engineers**), President

As President of a subsidiary of a large international architectural and engineering firm, Mr. Meckler provided technical expertise in various capacities for a wide variety of major clients.

### Cogeneration and Other Energy Systems

**Envirodyne Energy Services, Inc. (EES)**, a subsidiary of Envirodyne Industries, President.

Mr. Meckler headed the NASDAQ (EES) subsidiary specializing in the design, construction, start-up, operation and maintenance of cogeneration plants and other on-site energy systems.

### Engineering Experience

**Silver, Meckler and Associates**, Principal; **Hellman, Silver, Lober and Meckler, Inc.**, Principal; **Meckler Associates**, Principal; and **The Meckler Group**, President

Mr. Meckler formerly served as a principal of several well-known area/national multidiscipline engineering firms; Meckler Associates was acquired by Envirodyne Industries (OTC) in 1974. Subsequently, in 1975, Mr. Meckler was one of the founding Principals of Envirodyne Engineers, first headquartered in Beverly Hills, Ca (and subsequently known as Consoer, Townsend Envirodyne Engineers, Chicago) and which was ranked in the 5/15/75 Engineering News-Record "ENR 500 list of Top Design Firms" as 88th under Billings: Totaling \$10 million to 14.9 million.

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### ACADEMIC

Mr. Meckler has lectured at the **University of California, Los Angeles (UCLA)**, Downtown Extension; **Rochester Institute of Technology** (Clean Room) Seminars; and **California State University, Northridge (CSUN)**.

Subsequently, was appointed as **Instructor** (1979-1981), followed by appointment as **Adjunct Associate Professor of Engineering**, (1981-1982) School of Engineering and Computer Science at the California State University, Northridge (**CSUN**).

Was appointed Adjunct **Professor of Mechanical and Chemical Engineering**, (1982-1983) School of Engineering and Computer Science at

CSUN.

Was appointed **Adjunct** Associate Professor, School of Information Science, Claremont Graduate University, Claremont, CA (2003-2004)

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**RECOGNITIONS,  
HONORS & AWARDS**

**Alzirus Brown Scholarship**, W.P.I., 1951 through 1954

**Peel Prize**, W.P.I., 1953

**Tau Beta Pi** (Engineering Honorary), 1953

Graduated "**with Distinction**" Worcester Polytechnic Institute, 1954

**Sigma Xi** (Scientific Research Honorary), 1956

**Honorable Mention**, Hydraulics and Pneumatics Magazine, 1972

**Who's Who In Engineering** (American Association of Engineering Societies), 1982

**Who's Who In Technology Today** (National Science and Technology), 1984

**Who's Who In Science and Engineering**, 5th Edition (Marquis Who's Who, Inc.), 2000-2001

**Who's Who in America**, 48th Edition, (Marquis Who's Who, Inc.), 1994

**Fellow**, American Institute of Chemists (AIC), 1994

**Fellow**, American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE), 1985

**Fellow**, American Society of Mechanical Engineers (ASME), 1989

Awarded the prestigious **Crosby Field Award** (1989) and **Best Symposium Paper Award** (1989) by American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE)

**Fellow**, and National Academy of Forensic (NAF) Engineers, 1990 (to date)

**CESB Board** Certified Diplomat in Forensic Engineering by NAFE, 1993 (to date)

As a key member of the EHI Design Team, Mr. Meckler served as Project Manager responsible for providing mechanical and electrical engineering services associated with world's first seismic isolators being implanted in columns of **Rockwell International Headquarters, Building 80, Seal Beach, California**, an existing 8-story concrete building for which the following four national awards were given:

1. **Outstanding Design Award**, Los Angeles Tall Building Council, May, 1990
2. **Engineering Project Achievement Award**, Institute for The Advancement of Engineering, February, 1990
3. **Merit Award for Outstanding Civil Engineering Project of the Year**, American Society of Civil Engineers, July, 1991
4. **Project Innovation Award**, American Society of Civil Engineers, July, 1991

Awarded the prestigious Association of Energy Engineers (AEE) **Environmental Professional of the Year Award**, 1992

**Who's Who Environmental Registry** (Citation Directories, Ltd.), 1992

**1996 CADDIE 2nd Place Award** in the Practicing Professionals category for a video jointly produced by **The Meckler Group** and Multi Media Graphics, Irvine, CA for use in a courtroom representation. The award was for the video entitled "**The Fall**" was presented to acknowledge the video as important milestone for **Animation** by **Cadalyst Magazine** and to promote recognition and growth for the creative use of AutoCAD software applications.

**Who's Who in Finance and Industry**, 30th Edition  
(Marquis Who's Who), 1998 - 1999

**Who's Who In The West** (Marquis Who's Who, Inc.), 1998 - 1999

**Certificate in Appreciation** of service and recognition of Distinguished Achievement in Engineering. Given by the Los Angeles Section of the **American Society of Mechanical Engineers** on April 21, 1998

**1999 Outstanding Technical Author Award.** Given by **Strategic Planning for Energy and the Environment Journal**, published by the Association of Energy Engineers, Lilburn, Ga.

**Finalist , Lifetime Achievement Award , 2004 Platts Global Energy Awards , The Plaza Hotel , New York , NY , December 10 , 2004**

**ASHRAE Distinguished 50 Year Member Award, June 21, 2008**

**COMMUNITY SERVICE** **Member**, Los Angeles Chamber of Commerce and member of Los Angeles Noise Abatement Committee (1973-74)

**Member**, RANN Advisory Committee for Post-1933 Earthquake Problems in California Schools involving on-going research at University of California Berkeley, Earthquake Research Institute sponsored by National Science Foundation (NSF). (1974)

**Adjunct Associate Professor and Adjunct Professor** of Mechanical and Chemical Engineering, School of Engineering and Computer Science, California State University, Northridge (1981-83)

**Adjunct Associate Professor** , School of Information Science , Claremont Graduate University, (2003-2004).

**Vice President** (1983) and Member, Board of Directors (1981-82) - Encino Chamber of Commerce

**Chairman**, Zoning Committee (1982-83) - Encino Chamber of Commerce

**Director**, Quintas Malaga Homeowners Association Santa Monica, California (1992-1997)

**Director-at-Large**, American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE), Atlanta, Georgia (1995-1998)

**Member , Ambassadors Committee , City Club at Bunker Hill , Los Angeles, CA ( 2001-2004)**

**Member , Breakfast Club Committee , City Club at Bunker Hill, Los Angeles , CA (2001 – 2004)**

**Member , Ambassadors Council, Centre Club , Tampa , FL**

**Member , Tampa Bay Society , Clearwater , FL**

**Member , Business Committee , Centre Club , Tampa , FL**

**Director**, Los Angeles Power Association (1996-1998)

**Member**, Santa Monica City Forum ( 1995- 2001)

**Member, Planning Committee, Downtown Home Owners Association  
Saint Petersburg, FL**

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**PROFESSIONAL  
MEMBERSHIPS  
(Current and Former)**

Air and Waste Management Association (Member)  
Air Pollution Control Association (Member)  
American Association for Contamination Control (Member)  
American Chemical Society (Member)  
American Institute of Chemical Engineers (Member)  
American Institute of Chemists (Fellow)  
American Institute of Constructors: (Certified Professional  
Constructor (CPC) and Life Member)  
American Society of Civil Engineers (Member)  
American Institute of Industrial Engineers (Senior Member)  
American Society of Heating, Refrigerating and Air-Conditioning  
Engineers, Inc. (Fellow/ Life Member)  
American Society of Mechanical Engineers (Fellow/ Life Member)  
American Society for Metals (Member)  
American Society of Plumbing Engineers (Full Member)  
American Society of Safety Engineers (Professional Member)  
Air-Conditioning Contractors of America ( Member)  
American Society of Testing Materials (Member)  
American Physical Society (Member)  
Association of Professional Energy Managers (Member)  
Association of Energy Engineers (Senior Member)  
Building Industry Associates of California (Member)  
Building Officials Code Administrators (Professional Member)  
California Society of Professional Engineers (Member)  
Business Council on Indoor Air (Director)  
CESB Board Certified Diplomate in Forensic Engineering  
Commercial-Industrial Council of the Building Industry Association of  
California, Inc. (Member)  
Computer and Automation Systems Association of SME (Charter Member)

Environmental Engineers & Managers Institute of AEE (Charter Member)  
Environmental & Water Resources Institute of ASCE (Member)  
Fluid Power Society (Member)  
Greater Los Angeles Chapter, National Safety Council (Member)  
Human Factors and Ergonomics Society (Member)  
Institute of Environmental Sciences (Member)  
International Conference of Building Officials (Professional Member)  
International Solar Energy Society (Member)  
National Academy of Forensic Engineers (Charter Member/ Fellow/ )  
National Society of Professional Engineers (Member)  
Society of Automotive Engineers (Member)  
Society of Manufacturing Engineers (Senior/ Life Member)  
Solar Energy Industries Association (Member)  
System Safety Society (Member)  
The Construction Specifications Institute (Professional Member)  
The Society of American Military Engineers (Member)  
International Organization for Standardization (ISO)/TC - 205: Building  
Environment Design , US/ANSI Technical Advisory Group (TAG) Chairman ( 1995-1998) and Technical Committee Chairman (1995-2001)  
Environmental Assessment Association: CEI , CES, CAQS and CEC Member  
Los Angeles Power Association Member, Director (1996-2000)  
American Society of Civil Engineers (Member)  
National Fire Protection Association (Member)  
Association of Construction Inspectors: CCI, CCPM, and CCC Member

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## **CERTIFICATIONS**

**Certificate of Qualification issued by the National Council of Examiners for Engineering and Surveying (No. 2846)**

**Energy Auditor Certificate, No. 425 issued by the California Energy Commission**

**Certified Manufacturing Engineer in Plant Layout and Material Handling (#0800094) issued by the Society of Manufacturing Engineers**

**Certified Environmental Inspector (CEI) and Certified Environmental Specialist (CES), Certified Air Quality Specialist (CAQS) and Certified Environmental Consultant (CEC) issued by the Environmental Assessment Association (No. 11801)**

**Certified Construction Inspector (CCI) , Certified Construction Project Manager (CCPM) and Certified Construction Consultant (CCC), issued by the Association of Construction Inspectors ( No 7004)**

**Certified Professional Constructor (CPC) issued by the American Institute of Constructors ( No. 045)**

**Certification in Hazardous Substance Removal and Remedial Actions and Certification in Home Improvement issued by the California State Contractors License Board**

## **PUBLICATIONS**

Author and contributor to more than 350 published design manuals, books, videos, patents, feature articles, technical papers and engineering handbooks, including:

Author of "**Energy Conservation in Buildings and Industrial Plants**," McGraw-Hill, New York, NY (1980)

Co-Author of "**Pumps & Pump Systems**" (American Society of Plumbing Engineers, Los Angeles, CA (1983)

Editor and Contributing Author of "**Retrofitting of Commercial, Industrial and Institutional Buildings for Energy Conservation**," Von Nostrand-Reinhold Company, Inc., New York, NY (1984)

Editor and Contributing Author of "**Indoor Air Quality Design Guidebook**", The Fairmont Press/Prentice-Hall (1990)

Author of "**Innovative Energy Design for the '90s**," The Fairmont Press/Prentice-Hall (1993)

Editor and Contributing Author of "**Retrofitting Buildings for Energy Conservation**", The Fairmont Press/Prentice Hall, 1994

Editor and Contributing Author of "**Improving Indoor Air Quality through Design, Operation and Maintenance**," The Fairmont Press, Inc./Prentice-Hall, 1996

Editor and Contributing Editor of "**Sustainable On-Site CHP Systems : Design, Construction and Operations**", McGraw-Hill, New York, N.Y. (2009)

Editor and Contributing Author of the 10-volume **Energy and the Environment** series, including:

**“Safari Experience: Journey for the 80’s”**

**"Synfuel: Energy for the 80's"**

**“Energy Design Techniques: Strategies for the 80's," Part I**

**"Energy Design Techniques: Strategies for the 80's," Part II**

**"Cogeneration: Power for the 80's"**

**"Energy Conscious Design Methods: Approaches for the 80's," Part I**

**"Energy Conscious Design Methods: Approaches for the 80's," Part II**

**"Multisource Hydronic Heat Pump System: Creative Load Management for the 80's"**

**"Cold Region Engineering: Arctic Design for the 80's"**

**"Peltier Effect Heat Pump Systems: Solid State for the 80's"**

He has contributed to several leading engineering handbooks including **Facilities and Plant Engineering Handbook**, McGraw-Hill, (1973); **1975-6 ASPE Data Book**, Vol. 2; **Handbook of Energy Conservation for Mechanical Systems in Buildings**, Van Nostrand-Reinhold, 1978; **Schoolhouse Energy Efficiency Demonstration (SEE) Manual**, Tenneco, Inc., 1980; **Energy in Design; Techniques and Applications and Design Problem Workbooks**, AIA Catalog #N911, 1981; **Ventilation and Indoor Air Quality in Hospitals**, Edited by M. Maroni, Milano (Italy), 1995, NATO Scientific Publications, Kluwer Plenum, Springer - Verlag ISBN0 - 7923 - 4076-0, 1996. **Recent Developments in Separation Science**, CRC Press, 1986; and **Design Manual 3.03, "Heating, Ventilating and Air Conditioning & Dehumidifying Systems"** issued by Naval Facilities Engineering Command, January, 1987, SN-0525-LB-300-3026, **American Gas Cooling Center Publications: Technology Transfer Workshop- Absorption Systems ; Technology Transfer Workshop- Engine Systems ; Technology Transfer Workshop- Dessicant Cooling Systems ; Technology Transfer Workshop- Integrated Systems Design; Application Engineering Manual- Integrated Systems Design.**

Mr. Meckler continues to lecture extensively on product and system engineering design, construction safety and management, energy systems safety, human factors, ergonomics, and indoor/outdoor air quality, waste management and related environmental issues participating in symposia, workshops and seminars nationally and internationally.

Having originally joined the Human Factors and Ergonomics Society (HFES) in 1999, Mr. Meckler currently serves as a member of the following HFES

Technical Groups:

Cognitive Engineering

Communication  
Environmental Design  
Forensic Professional  
Human Performance Modeling  
Industrial Ergonomics  
Performance and Perception  
Product Design  
Safety

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## PROFESSIONAL ACTIVITIES

Mr. Meckler has also served the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE) as a member of several national committees; namely: **TC-9.1 (Large Building Air Conditioning Systems)**. He is currently a member of TC-9.1, which is responsible for review and revision of several chapters of the well known four volume ASHRAE Guide, receiving recognition in the 1984 SYSTEMS Guide. He is currently also a corresponding member of

**T.C. 5.6. (Smoke and Fire Control), a member of T.C. 8.12 (Desiccant Dehumidification Equipment and Components) and TC-9.1 (Large Building Air Conditioning Systems )**, and a former member of **SPC-129 Ventilation Effectiveness Standards Committee** which prepared **ASHRAE Standard 129-1997( RA 2002) Measuring Air – Change Effectiveness)** , He is currently a member of **SCP 174P now in the process of developing BSR/ASHRAE Standard 174P , Method of Test for Rating Packaged , Desiccant Based , Dehumidifier Systems . and SCP 139 charged with updating ANSI/ASHRAE Standard 139-1998 for reissue.**

He received a presidential appointment to the standing **Journal Committee** in 1985 and 1986 and has served as a member of the **Journal Editorial Board**. In 1982, he was also appointed to ASHRAE's **National Program Committee**, and served from 1983 to 1991 as a member of ASHRAE **SPC-62-1981R Committee** which prepared **ASHRAE Standard 62-1989: "Ventilation for Acceptable Indoor Air Quality."**

In 1986, he was elected **Fellow** by the **ASHRAE Board of Directors** upon recommendation of the Honors and Awards Committee. In 1990, he was awarded the prestigious **ASHRAE 1989 Crosby Field Award** as well as **ASHRAE Symposium Paper Award** of 1989 for his published work on the computer modeling of smoke movement during the 1980 MGM fire in Las Vegas.

In 1993, he was awarded **Distinguished Service Award** by ASHRAE Board of Directors for "serving faithfully and with distinction and giving freely of his time and talent on behalf of the Society."

Selected by ASHRAE **National Chapter Program Committee** as a participant in the **ASHRAE Distinguished Lecturers Program** to reward chapters who have performed with excellence and to broaden an area of interest within a local or overseas chapters . In this capacity ,he lectured at a number of US ASHRAE Chapters and was invited by the Cairo ( Egypt ) ASHRAE Chapter to lecture at their 1999 ASHRAE Regional Conference and Expo held at the Cairo Convention Centre.

Active in construction management, safety and advances in construction methods, materials and practices, Mr. Meckler has been designated as a **Constructor Life/Member** and **Certified Professional Constructor** by the **American Institute of Constructors**, and a **Certified Construction Inspector, Certified Construction Project Manager and Certified Construction Consultant** by the **Association of Construction Inspectors**. A state of California licensed and bonded **General Building and Engineering Contractor** since 1978, Mr. Meckler also holds a **Certification in Hazardous Substance Removal and Remedial Actions** and a **Certification in Home Improvement** following examination by the **California State Contractors Board**.

Active in environmental engineering practices, publications and methods, Mr. Meckler, a state of Oregon licensed **Professional Environmental Engineer**, has also been designated as a **Certified Environmental Inspector, A Certified Environmental Specialist, Certified Air Quality Specialist** and a **Certified Environmental Consultant** by the **Environmental Assessment Association**.

Mr. Meckler was also Member of the following American Society of Testing Materials (ASTM) National Standards Committees: **Committee D-22 on Sampling** and Analysis of Atmospheres, **F-27 on Snow Skiing**, **E-6 on Performance of Building Constructions** and **F-9 on Tires**.

Mr. Meckler was elected as **Chairman**, of both International Organization for Standardization (ISO)/TC 205: "**Building Environment Design**," **Technical Committee**,( 1995-01) and the **ISO/TC-205 Technical Advisory Group or TAG (1995 –98)** . The TAG operated under the auspices of the American National Standards Institute and represented United States' interests in dealing

with related indoor building environmental issues including ; energy, lighting , visual , acoustic, control and automation protocols and indoor air quality.

The Technical Committee operated under the auspices of the SO Central Secretariat, located in Geneva , Switzerland which interfaced with CEN Standards Organization represented European Union (EU) nations. ISO at the time had 71 Member Bodies (including ANSI in the U.S.) and 178 technical committees represented by appointed members worldwide.

In 2000, Mr. Meckler as acting Chair of ISO-TC 205 was invited by ISO management to attend and participate in the first Convention of ISO Committee Chairs organized for discussion of new ISO standards policies and procedures being proposed by the ISO Central Secretariat for the 21<sup>st</sup> century.

Mr. Meckler was also invited to be a member of National Institute of Science and Technology (NIST) **Research Agenda Project Committee** and participated in the development of National Institute of Building Sciences (NIBS) report entitled "**1993 Research Recommendations**" dated May, 1994.

In 1995 he was invited to join **Editorial Advisory Board of GC**, The Magazine of Gas Cooling, was elected to serve as a **Director-at-Large (DAL)** of ASHRAE's **Board of Directors** and as a member of ASHRAE's **President-Elect Advisory Committee**. While a DAL, he has served ASHRAE as a member of the **Publishing and Education Council**, a **BOD ExO** member of **Journal/Insights, Handbook, Special Publications, Continuing Education and Chapter Programs Standing Committees**, a member of **Joint ASHRAE/ARI Exposition Policy Committee** and as a Presidential appointed member of the **R&T/ Technical Activities Nominating Subcommittee, Vice Chairman of ASHRAE's Technology Council** and as a **BOD ExO member of the Refrigeration, Technical Activities, and Technical, Energy and Governmental Affairs (TEGA) Standing Committees**.

In 1996 he was elected to serve as a member of the **Board of Directors (1996-2000)** of the **Los Angeles Power Association (LAPA)**. LAPA is a non-profit organization with members representing small and large independent power producers, fuel suppliers, equipment suppliers, contractors, engineering/architecture firms, cogeneration plant owners and operators, consultants and legal professionals, financial institutions, government agencies and utilities. In **1997** he was invited to serve as a member of the **California Alliance For Distributed Energy Resources (CADER) Committee, A Voluntary Collaborative for Implementation of Provisions of AB 1890. "Electric Utility Restructuring Legislation, State of**

**California’**. CADER is an alliance of public and private organizations formed in 1996 to identify and develop specific solutions to the deployment of Distributed Resources.

Revised 11/21/09