

Air and Waste Management Association

100th Annual Conference and
Exhibition of the Air and Waste
Management Association
2007

June 26-29, 2007
Pittsburgh, Pennsylvania, USA

Volume 1 of 7

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571
www.proceedings.com

ISBN: 978-1-60423-846-4

Some format issues inherent in the e-media version may also appear in this print version.

Copyright Information

Proceedings of the Air & Waste Management Association's (A&WMA) 100th Annual Conference & Exhibition

ACE-07-CD

Publication Policy

This compact disk contains technical papers presented at the A&WMA's 100th Annual Conference & Exhibition, held June 26-29, 2007, in Pittsburgh, Pennsylvania. The information and opinions expressed in these papers are solely of the authors and should not be considered as having the endorsement or support of the Association.

Compilation Copyright ©2007 by the Air & Waste Management Association. Copyright of the individual papers are retained by the authors. Published in June 2007.

Manufactured in the United States of America

Additional copies of these and other A&WMA conference proceedings are available through the A&WMA Online Library. To place an order, please visit the Online Library at <http://secure.awma.org/OnlineLibrary/> or contact the A&WMA Publications Order Department at onlinelibrary@awma.org, +1-412-232-3444 (phone) or +1-412-232-3450 (fax). For a complete listing of books, CDs, and educational materials offered in the Online Library, visit our Web Site, or contact the Publication Department at onlinelibrary@awma.org, +1-412-232-3444 (phone) or +1-412-232-3450 (fax).

TABLE OF CONTENTS

Volume 1

Investigation on PM_{2.5} in the Ambient Air of Urban Areas: Current Status and Perspectives	1
<i>B Zhao, J Zhang, Y Su</i>	
An Update of the United States Emissions Trading Markets	8
<i>R Lack</i>	
Fine Particulate Collection Using Dry Electrostatic Precipitators	30
<i>R Mastropietro</i>	
Potential Effect of Condenser Temperature on Condensable Particulate Matter Measurements via Method 202	40
<i>M Distler, J Moldovan</i>	
Representativeness of the ROMANS Spring and Summer Monitoring Campaigns	49
<i>B Schichtel, K Gebhart, M Barna, W Malm, J Hand, D Day, J Collett, M Rodriguez</i>	
GEMA & Environmental Stewardship: Keeping our Plant Clean, Lean and Green.	55
<i>J White-Newsome</i>	
Effects of Walking and Tapping Feet on the Level of Air Velocities in the Space and Particle Fluxes Close to the Floor-Full-scale Experimental Results	61
<i>S Wang, J Zhang, J Qian, A. Ferro</i>	
Particle Deposition in Indoor Environment and its Impact on IAQ	76
<i>S Wang, J Zhang</i>	
Removal of Cr(VI) from Wastewater Using Spent Activated Clay: Kinetic and Equilibrium Studies	90
<i>C Weng, S Chu</i>	
Military Aircraft Emissions Research - Case of Hercules Cargo Plane (C-130H) Emissions	105
<i>M Cheng</i>	
SERDP Military Aircraft Emissions Research Program	112
<i>M Cheng</i>	
Local Implementation of Global Climate Change Commitments	117
<i>A. Ravin, C. Strong Hibbard</i>	
Waste Management Principles	125
<i>A. Paciga, K Dooley, L Theodore</i>	
Monitoring of Odorous Sulphur Compounds Emitted by Chemical Industry	139
<i>H Joglekar</i>	
Coke Oven Condensate Hazardous Waste Issues	152
<i>T Robertson</i>	
Remote Sensing Measurements of Gases and Particulates in Aircraft Engine Plumes	160
<i>R Kagann, R Hashmonay, R Shores, D Harris</i>	
Know Your Regulations/Know Your Regulator: Keys to Successful Redevelopment	176
<i>J Scrabis</i>	

PM_{2.5}: Regulatory Fallout.....	185
<i>G Mesing</i>	
ABQAIQ Plants Total Air Quality Management.....	200
<i>E El-ayoubi</i>	
Study on the Removal Performance Assessment of Indoor VOCs with TiO₂/MCM-41 Photoreactor.....	210
<i>C Chang, C Tsai, C Chiou</i>	
Environmental Impact Assessment for Potential Continuous Processes for the Production of Carbon Nanotubes	229
<i>H Lou, A. Singh, X Li, J Hopper, C Yaws, R Pike</i>	
Best Practices in Hazardous Waste Management.....	251
<i>I Powell</i>	
Implementing an Effective Compliance Reporting Plan	254
<i>I Powell</i>	
Application of the MM5-CAMx4.2 Numerical Modelling System to Investigate a Proposed Reduction of Winter PM Concentrations in Christchurch, New Zealand Over the 2005-2013 Time Period.....	257
<i>M Titov</i>	
Greenhouse Gas (GHG) Programs and Emission Inventories: Getting Started.....	263
<i>T Sexton</i>	
Mercury Control Technology Field Testing: A DOE/NETL Update	269
<i>A. O'Palko, J Murphy, A. Jones, T Feeley</i>	
How Relative Should Standard Deviation Be?.....	288
<i>J Lipscomb</i>	
Refinement of the Thresholds for the Visual Perception of Plumes	293
<i>W Richards, P Catizone, S Zell, J Prouty</i>	
Maximum Allowable Syngas Fuel Sulfur Content for IGCC Facilities with and without SCR for NOX Control	309
<i>J Haywood</i>	
Compliance with the Clean Air Act at Los Alamos National Laboratory	315
<i>D Wilburn</i>	
Challenges in Bogota Air Quality: Policies and Technology	325
<i>J Pachon, E Behrentz, N Rojas</i>	
Measurements and Modeling of Ammonia and Hydrogen Sulfide Emissions From a Commercial Swine Finishing Operation in North Carolina.....	330
<i>J Blunden, V Aneja</i>	
Application of NSR Reform Principles to Cement and Lime Manufacturing Facilities	343
<i>A. Remsberg, H Ybanez, D Wall</i>	
An Assessment of Benzo(a)pyrene Air Emissions in the Great Lakes Region.....	355
<i>C Wu, J Dettling, O Cabrera-Rivera, D Asselmeier, D McGeen, A. Ostrander, J Lax, C Mancilla, T Velalis, J Bates</i>	
Altech Technology Systems Introduces Advanced Air Pollution Abatement Design for Municipal Solid Waste Incineration.....	367
<i>G Bennett</i>	
Volume Flow Rate Effects on Worker Exposure in Large Paint Facilities Using CFD Analysis	371
<i>K Paulson</i>	
Use of Pineapple Leaf Powder for Adsorption of Cationic Dye (Methylene Blue) from Aqueous Solution	382
<i>C Weng, T Tzeng</i>	

Membrane WESP-A Lower Cost Technology for Multi-Pollutant Control.....	400
<i>H Shah, J Caine</i>	
Particulate Monitoring and Control in Lower Manhattan During Large Urban Redevelopment	416
<i>K Held, T Kunkel, R Kricks</i>	
Weather-Normalized Ozone Trends in Baltimore and Washington, DC.....	431
<i>K Walsh, M Milligan, J Sherwell</i>	
Zero Volatile Organic Compound (VOC) Coatings and Low VOC Topcoats	436
<i>T Rose</i>	
Comparison of Pre- and Post-MACT Dioxin Emissions from Cement Kilns Burning Hazardous Waste	452
<i>C Kellett</i>	
Permitting Associated With Flue Gas Desulfurization Scrubber Projects - Interaction between the Design and the Permitting Teams for a Seamless and Successful Project	457
<i>T Giglotti, J Kilburg, R Grapin</i>	
Emergency Response Strategies	462
<i>I Powell</i>	
Preventing Your Next Environmental Incident - Applying Behavior Based Safety and Pre-Task Analysis Tools to the Environmental Arena.....	466
<i>P Brush, M Burzinski, H Schmidt</i>	
Performance of Novel Oxidant on Elemental Mercury Control in an Entrained- Flow System	478
<i>S Lee, J Lee, T Keener</i>	
Comparison of Analytical Modeling and Wind Tunnel Test Results to Ambient Carbon Monoxide Monitored Levels Performed for the Longitudinally Ventilated Dewey Square Tunnel in Boston.....	486
<i>H Ginzburg, G Schattanek</i>	
Mesoamerica's Workshop on the Effects of Air Pollution on the Mayan Heritage Monuments	500
<i>H Bravo, P Sanchez, R Sosa, R Soto, J Reyes, L Pescador, A Velazquez, M Lopez, J Hernandez, M.J. Con, B. Otto, A. Vazquez, S. Paredes, S. Nakamura</i>	
The Influence of Data Quality Assurance on Transit Bus Idle Emission Rates	508
<i>C Feng, R Guensler, M Rodgers</i>	
Recent Upgrades to a Large Industrial Remote Monitoring Network.....	525
<i>C Kaiser, R Evans, A Fisher, R Hiatt, J Jacobs, S Vardiman, L Yu, A Montz, A Hinckley, E Reber</i>	
Source Apportionment of Ambient PAHs in Agricultural Residues Open Burning Area.....	537
<i>C Lai</i>	
Characterization and Treatment of Oil-Bearing Wastes from Aluminum Alloy Machining Operations	556
<i>L Chen, C Hsieh, J Wetherbee, C Yang</i>	
Immobilization of Hg in Sediment Caps and Inhibition of Hg Methylation by FeS Amendment	572
<i>J Liu</i>	
Efforts to Reduce Mercury Releases from the Cremation Industry.....	576
<i>M McMillan</i>	
Understanding and Addressing the Release of Pharmaceuticals into the Environment	584
<i>M McMillan</i>	

A Brief Review of Progress in Air Pollution Measurements.....	590
<i>L Nelms</i>	
Modeling of an Multi-Pollutant Reduction System on a 350 MW Coal-Fired Utility Boiler	603
<i>G Liu, L Yan, B Higgins</i>	
Air Toxic Emission from Wastewater Treatment Plants and Its Health Effect	617
<i>V Kogan, T Ahn, E Torres, K Liang, L Farrell</i>	
Recycling of Scrap Nd-Fe-B Magnet.....	634
<i>C Lee, Y Chen, C Chien, C Cin, C Yan, S Tsai</i>	
Pilot Study of Absorption of NO₂ with Na₂S Aqueous Solutions.....	647
<i>L Chen</i>	
Ambient PM₁₀, PM_{2.5} and Lead Database (DB) Design and Monitoring Results for the CAIP Air Monitoring in the Greater Cairo (GC) Area	661
<i>M Labib, M Khalil</i>	
Estimation of the Health Risk from Ambient Lead Pollution in the Greater Cairo (GC) Area in Egypt	676
<i>M Labib, Z Safar</i>	
Baseline Study of the Impact of Lead Smelters and Lead Foundries in Egypt for 1998 to 2006	691
<i>Z Safar, M Labib</i>	
Ambient PM₁₀, PM_{2.5}, Inorganic Elements and Polycyclic Aromatic Hydrocarbons Concentrations at a Traffic Impacted Site in Cairo	706
<i>M Labib, M Khalil</i>	

Volume 2

Remediation Plan for the Largest Lead Smelter in Egypt.....	720
<i>Z Safar, M Khalil, M Labib</i>	
The Application of MODIS Satellite Remote Sensing in Estimation of Particulate Urban Air Pollution	736
<i>A Torkian, F Amid, H Keshavarzi</i>	
An Ambient Air Pollution Monitoring Network for the Alexandria Egypt Region	743
<i>M Abo El Azm, A Ibrahem, M Labib</i>	
Air Quality in Aswan Governorate which is the Southern Governorate of Upper Egypt and on the Border between Egypt and Sudan	755
<i>M Labib, A El-Soud, A Ibrahem</i>	
Air Quality in Beni Suef Governorate Which is the First Governorate South of the Greater Cairo (GC) Area	770
<i>M Labib, T Poulsen, M Awad</i>	
MTBE and Hazardous Chemicals in the Greater Cairo (GC) Area	784
<i>M Labib, M Khalil, A Gertler</i>	
A Health Risk Assessment of Domestic Waste Combustion in Slovakia	798
<i>J Krajcovicová, A Eschenroeder</i>	
Arsenic - Trials, Tribulations and Triumph in Site Remediation	821
<i>M Holliday, W van Niekerk, M Fourie, M Traut</i>	
Progress Report: Regional Haze BART Rule Implementation and Interaction with New Source Review Permitting	833
<i>R Paine</i>	

Review and Analysis of EPA's Proposed Revisions to Its General Conformity Regulations.....	849
<i>D Stonefield</i>	
Clean Air Strategic Alliance: Resolving Air Issues Through Consensus.....	857
<i>D Tingley</i>	
Application of PSCF to PMF-modeled Sources of PM_{2.5} in Riverside Using 1-hr Averaged Data.....	873
<i>D Eatough, W Woolwine, W Christensen, B Grover</i>	
Pesticides in Urban Multi-Unit Dwellings: Hazard Identification and Control of Risks Associated with Pesticide Use.....	878
<i>R Julien, J Spengler, R Canales, P Hynes, M Reid</i>	
Smoke And Plumes.....	891
<i>K Schnelle, K Pence</i>	
Investigation of Fine Particle Emissions from B-52 Aircraft	897
<i>S Mahurin, M Cheng, E Corporan, M DeWitt</i>	
Performance Evaluation of PM₁₀, NO_x, SO₂, CO and O₃ Ambient Monitoring Networks of Vitoria, Brazil	902
<i>R de Queiroz, A Diesel, M Bastos</i>	
Air Quality, Land Use, and Sustainability as Transportation Performance Measures	919
<i>J Suhrbier, V Smith</i>	
Comparison of Fine Particulate Matter Speciation Data at Southeastern Pennsylvania PM_{2.5} FRM Network Sites.....	924
<i>G Biebuyck, M Zeiders</i>	
Fuel Bleed Recovery Project: Approval and Implementation	939
<i>S Patel</i>	
Elements of a Successful Air Emission Tracking System.....	943
<i>A Castano, W Hales</i>	
IAQ and Energy Considerations for a Waiting Room in a Train Station	952
<i>P Zhang</i>	
Atmospheric Transformation of Diesel Emissions: Results from EUPHORE Outdoor Simulation Chamber Experiments.....	962
<i>S Samy, B Zielinska, M Moreno, J McDonald, J Seagrave</i>	
A Mosaic of Air Toxics Control Strategies: Comparison of State Air Toxics Rules and Guidelines	967
<i>A Pakrasi, D Huff, L Blinn, A Mazzoccoli</i>	
Fine Particle Mass and Gas-Particle Partitioning of Semivolatile Organic Aerosol Emissions from Combustion Sources.....	981
<i>A Grieshop, A Robinson</i>	
Preliminary Investigation of Greenhouse Gas Emissions from Environmental Sectors in Taiwan.....	986
<i>P Liu, J Tsai, Y Fukushima, C Lee, T Tseng</i>	
Dry Deposition of Airborne Particles and Characteristics of Polycyclic Aromatic Hydrocarbons in Kaohsiung, Taiwan.....	1001
<i>H Wang</i>	
Ozone Profiles Over the Industrial Coast of Southern Taiwan	1011
<i>C Lin, C Lai, Y Wu</i>	
Measurements and Simulations of Surface and Upper-Level Ozone Concentrations in Southern Taiwan	1016
<i>Y Peng</i>	

The State of Composting in Canada	1028
<i>M Cant, P van der Werf</i>	
Working with Water - Implementing P2 Techniques	1037
<i>A Keen</i>	
Enhancing the Destruction of Hydrophobic VOCs in Trickle Bed Air Biofilters	1045
<i>A Aly Hassan, G Sorial</i>	
Fixed Bed Adsorption for Mercury Control	1060
<i>J Enneking, C Summers</i>	
Updating AP-42	1073
<i>M. Serageldin, T. Pace, D. Mobley, J. Southerland, T. Driscoll</i>	
EPA's Perspective on Wildland Fire Emission Inventories - A New Satellite-based Methodology	1075
<i>T Pace</i>	
Residual Risk Update 2	1079
<i>T Dillow, M Dixon</i>	
Getting Your Sample Results Admitted Into Court	1089
<i>D Restaino</i>	
Statistical Analysis of the Cyclic Nature of Ambient Concentrations of Dioxins, Furans, Polychlorinated Biphenyls, and Polybrominated Diphenyl Ethers in Urban Locations of California.....	1094
<i>K Ruch</i>	
Ozone Source Apportionment Results for Receptors in Non-Attainment Counties in the Great Lakes Region.....	1109
<i>K Baker</i>	
Fixed-Bed Study of Elemental Mercury Removal from Flue Gas Using a SiO₂-TiO₂ Nanocomposite	1120
<i>Y Li, P Murphy, C Wu</i>	
Odor CEM on a WWTP Biosolid Composting Facility using Electronic Noses.....	1125
<i>P Renyi, C Renner, J Levasseur</i>	
Laboratory Studies of Photochemical Oxidation of Organic Molecular Markers used for Source Apportionment.....	1137
<i>E Weitkamp, K Huff Hartz, A Sage, N Donahue, A Robinson</i>	
Approaches to Permitting Wood-Fired Boilers in Vermont and New Hampshire	1141
<i>J Hinckley</i>	
Electronic AEI Submission from the Air Program Information Management System (APIMS) Via the EPA Central Data Exchange.....	1149
<i>S Wallace</i>	
Successful Accelerated Permitting.....	1156
<i>K Graf, D Anderson, R Erbes</i>	
Alberta™s Multi-Stakeholder Process for Implementing the Canada-Wide Standards for Particulate Matter and Ozone	1160
<i>L Fu, G Murphy</i>	
Alberta™s Multi-Stakeholder Process for Developing Ambient Air Quality Objectives	1166
<i>L Blair, L Fu</i>	
Utilization of Two and Treee Dimensional Graphical Analytical Techniques in a Sensitivity Analysis of an AB2588 Health Risk Assessment Case Study.....	1171
<i>K Ruch</i>	
Greenhouse Gas Inventory Audit and Certification through the California Climate Action Registry: Lessons Learned.....	1181
<i>D Millar, B. Toole O'Neil</i>	

Prevention of Significant Deterioration, a Proposal for its Application in Latin American Countries	1189
<i>R Sosa, H Bravo, P Sánchez</i>	
Identifying and Quantifying Greenhouse Gas Emissions from an Educational Institution for the Purpose of Future Emission Reductions.....	1202
<i>K Haunschild</i>	
Field Application of the Digital Opacity Compliance System (DOCS) For Fugitive Emissions Opacity Determination.....	1211
<i>S Rasmussen, A Olivas, S Atkins, R Kennedy, S Smith, M McFarland</i>	
Effects of Biodiesel, Ultra Low Sulfur Diesel and Conventional Diesel on Emissions from Orange County School Bus Fleet.....	1227
<i>A Bayat, C Cooper</i>	
Air Quality Modeling Development and Application in a Traffic Tunnel.....	1237
<i>C Chung, P Chung</i>	
Compositional Characterization of Pollutant Emissions from Biodiesel Fuel Usage	1248
<i>A Tzillah</i>	
High Efficiency Nano-Silver Anchored Titanium Dioxide for Decomposition of Ozone in the Absence/Presence of UV Irradiation	1253
<i>Y Lin, C Lin</i>	
Novel Nano-Structured Adsorbent for VOCs Removals	1259
<i>C Hung, H Bai</i>	
Uncertainty of VOCs Emissions in Seoul Metropolitan Area - A Case Study.....	1263
<i>Y Sunwoo, Y Ma, Y Kim, J Yoo, H Kim, S Jang, J Nam, S Kim, J Kim, H Sung</i>	
Applying OP-FTIR Measurements and Wind Data to Localize Fugitive Emission Sources	1268
<i>C Wu, C Chen, S Chang, L Sung, J Yang, R Shie, J Su, P Chang</i>	
Characterize the 1996 Peak Daily 1-hr Ozone Exceedances Days at Ta-Liao Using Box-Jenkins Multivariate Time Series Model and Multivariate Analysis	1273
<i>P Liu</i>	
Laboratory and Field Evaluation for a Portable, Real-Time Ozone Monitor	1278
<i>I Kuo, Y Li, C Wu</i>	
Proposed Framework for the National Air Quality Strategy (NAQS) for Egypt	1284
<i>M El-Azm, A El-Soud, M Labib</i>	
Effect of Atmospheric Gases, Temperature and Humidity on Respiratory Illness in Lisbon.....	1299
<i>S Almeida, H Wolterbeek, T Verburg, M Freitas</i>	
Sifting Through Monitoring Data for a Representative PM Background in a Duststorm Prone Area	1311
<i>R Brower, L Corio</i>	
Emission and Measurement of the Speciation of Ozone Precursors in Kaoping Petrochemical/Industrial Area	1321
<i>C Lai, C Lin, Y Wu, H Lai</i>	
Potential For Carbon Sequestration in the Central Appalachian Basin.....	1328
<i>J Conrad, M Miller, N Ripepi</i>	
Impact of Meteorological Variables and Processes on Predicted PM_{2.5} Ammonium Sulfate and Ammonium Nitrate	1336
<i>K Baker</i>	

Cost of Compliance Assessment of the Proposed Defense Land Systems and Miscellaneous Equipment (DLSME) National Emission Standard for Hazardous Air Pollutants (NESHAP)	1353
<i>H Saxion, R Kaggal, J Ryckman</i>	
Traffic Model for Reducing Air Quality Health Exposures.....	1369
<i>R Singh, A Ciccone, C Morgan</i>	
Removal of Styrene and Acrylonitrile Mixture in a Gas Phase Bench Scale Biofilter	1382
<i>R Dehghanzadeh, A Torkian, M Asadi</i>	
History of Performance of Thermoset Polymer Linings in FGD Scrubbers	1393
<i>P Horbaly</i>	
Applications of Radial Plume Mapping Using Portable Tunable Diode Laser Absorption Spectrometer.....	1412
<i>C Parker, J Tulip</i>	
Green House Gas Emissions from Mobile Sources in the City of Toronto: A Comparison Between Top-down and Bottom-up Approach for Emission Inventory	1416
<i>R Singh, A Ciccone, A Bates, C Morgan</i>	
How to Make the Business Case for Your EHS Program.....	1428
<i>K Lagana, D Galt</i>	

Volume 3

Air Emissions from Automobile Manufacture - A Bio-oxidation Pilot Study of Paint Emissions Control.....	1443
<i>B Adams, P John, K Mundorff, J Boswell</i>	
A Model Evaluation Study of AERMOD Using Wind Tunnel and Ambient Measurements at Ground-Level and Elevated Locations.....	1452
<i>D Shea, O Kostrova, A MacNutt, R Paine, D Cramer, L Labrie</i>	
Effectively Managing Used Electronic Waste	1468
<i>R Newcomer</i>	
Analysis of Southern Oklahoma Rural Ozone Data to Obtain a Better Understanding of Ozone Pollution Transport.....	1476
<i>M Sather, K Stafford, C Goeller, L Ashford</i>	
Preliminary Study of the Chemical Composition of Rainwater in Northeastern México	1486
<i>E Ramirez-Lara, R Miranda-Guardiola, G Trujillo, H Bravo-Alvarez, R Sosa, A Alarcon, J Kahl</i>	
Using Satellite-Derived Data Sets to Improve the BlueSky Smoke Prediction Model	1495
<i>S Raffuse, D Sullivan</i>	
Consolidating the Long-Term Study of Vehicular Emissions in Rebouças Tunnel	1500
<i>A Moreira, J Almeida, A Minho, L Loureiro, L Rodrigues Moreira, R Ribeiro Filho, R Motta, R Ribeiro Filho, R Motta</i>	
Structuring and Managing PPG Industries, Inc. Global Greenhouse Gas Inventory.....	1505
<i>J Osheka, R Marks</i>	
Using OZIPR to Model the Updated São Paulo Basecase for 2004	1512
<i>A Moreira, G Arbillia, S Lorena</i>	
Updating the Assessment of Ambient Concentrations and Photochemical Reactivity of Speciated VOC in São Paulo, Brazil	1518
<i>A Moreira, J Almeida, A Minho, D Grosjean, E Grosjean, R Rasmussen</i>	

Trace-Element Concentrations in Biological Monitors and Atmospheric Deposition at Pico Island (Azores).....	1523
<i>C Freitas, B Vieira, A Pacheco, P Fialho, G Tuncel</i>	
Using Air Quality and Human Health Risk Assessment Tools for Sustainable Planning in Tracy, California	1539
<i>C Easter, A Bell</i>	
Odor Profiling Method for Ambient Air.....	1556
<i>J Jiang, A Plant</i>	
Metrics: Essential for Environmental Decision-Making and Sustainability.....	1565
<i>J Bridges, M Curran</i>	
Use of Crumb Rubber Wastes in Cement Stabilized Soil Blocks	1575
<i>P Parasivamurthy</i>	
Polycyclic Aromatic Hydrocarbons in Air Particulates From a Semiconductor Manufacturing Area of Metropolitan Hsinchu	1585
<i>H Chen</i>	
Secondary Organic Aerosol Formation in Irradiated M-xylene/NO_x/air Mixture with Highly Concentrated Ca(NO₃)₂ and CaSO₄ Aerosol	1589
<i>Z Lu, J Hao, J Li</i>	
Application of Activated Carbon Fiber Modified with Metal Catalyst via Physical Vapor Deposition Process for Ozone Removal	1593
<i>Y Lin, C Chang, T Lin, H Bai, M Yan, F Ko, C Wu</i>	
Downward and Upward Dry Deposition Fluxes Measured During Dry Season in an Urban Area Bandung, Indonesia	1599
<i>P Lestari, A Pratidina</i>	
Evaluation of Polychlorinated Dibenzo-p-Dioxins and Dibenzofurans Leachability from Air Pollution Control Residues with Multiple Extraction Procedures	1608
<i>H Hsi, T Yu</i>	
An Ambient Air Pollution Monitoring Network for the Sinai Egypt Region	1613
<i>M Labib, P Jago, A Ibrahim</i>	
Catalytic Oxidation of Toluene by Ozone Over NaX, NaY and MCM-41 Adsorbents	1625
<i>C Kwong, C Chao</i>	
Effect of Biomass Blending Ratio and Excess Air Ratio on Co-firing of Coal with Rice Husk and Bamboo.....	1638
<i>C Kwong, C Chao</i>	
Relationship Between Liquid Layer Formation on the Packing Material and Gaseous Toluene Removal in Biofiltration.....	1651
<i>T Higuchi</i>	
Sustainability and Cement: Making it Cleanly and Using it Greenly	1664
<i>T Carter</i>	
Concentrations of Hazardous Organic Chemicals in the Greater Cairo (GC) Area	1674
<i>M Labib, M Khalil, A Gertler</i>	
FAA EDMS Airport Air Quality Model Development.....	1689
<i>T Thrasher, A Nguyen, C Hall, R Iovinelli, C Holsclaw</i>	
Simultaneous Treatment of Landfill Leachate and MSW Incinerator Ashes by Codisposal Strategy	1700
<i>L Chiang, P Shih, C Huang-Lin</i>	
Some Insights into Ultrafine Particle Exposure to Bus Commuters Gained from Measurements in Manchester, UK	1705
<i>A Leavey, I Longley, M Gallagher, M Van Tongeren, R Agius</i>	

Towards Zero-Waste for Taiwan's MSW Management Experience over the Last 20 Years.....	1710
<i>L Lu</i>	
Development of an Affordable, Simple, Robust Diesel Exhaust Particulate Removal Unit for Diesel Trucks and Buses.....	1735
<i>D Schiff, M Castaldi</i>	
What You Can Learn From an Airhead: Lessons for Vapor Intrusion Studies.....	1742
<i>B Eklund</i>	
Environmental Chamber Measurements of Mercury Flux from Coal Utilization By-Product Samples.....	1753
<i>N Pekney, D Martello, K Schroeder, E Granite</i>	
Advanced Technology for Odor Control	1758
<i>G Bennett</i>	
Waste Activated Sludge Transformed into Immobilized Pellets for Biological Nutrient Removal	1763
<i>C Chang, C Chung, W Su, L Chang, Y Chiu</i>	
The Improvement in Adsorptive Ability of Unburned Carbon Particles.....	1768
<i>Y Hsieh, W Chen, J Wu, M Tsai</i>	
Pattern Recognition Algorithm to Identify Smoke Plumes in GOES Aerosol Optical Depth Imagery	1774
<i>J Zeng, S Kondragunta</i>	
Pyrolysis of Textile Wastes.....	1780
<i>R Miranda, C Sosa, D Bustos</i>	
Comparison of Naphthalene Measurements between Laboratory Methods and an Ultra-Fast Field Gas Chromatograph	1795
<i>A Rezendes, M Marando, P King</i>	
Recovery of Gallium from Photoelectric Industrial Wastes in Taiwan	1808
<i>Y Chen, J Jean, L Chang, F Yang</i>	
An Indoor Investigation of a Large Complex Building.....	1813
<i>D Brenner, S Olliges, T Anderson</i>	
How Your EMS Can Integrate International Environmental Issues	1834
<i>A Ellington</i>	
A Comparison of Methods for the Measurement of Styrene Emitted from a Foundry using the Lost Foam Process	1848
<i>C Glowacki, J Moldovan</i>	
Climate Change: The State WeTMre In.....	1852
<i>T Fagan</i>	
National Framework for Petroleum Refinery Emission Reductions	1860
<i>T Hewitt</i>	
Incorporating Engineering Controls into Vapor Intrusion Evaluations	1865
<i>A Goldberg Day</i>	
Biodiesel Usage at Kirtland Air Force Base, New Mexico	1882
<i>J Dann</i>	
Greenhouse Gas Emission Reductions under California AB32 and Implications for Industry in California.....	1890
<i>H Balentine, E Collins, K Field, J Hahn</i>	
Reducing Greenhouse Gas Impacts and Achieving Sustainability through Utilization of Landfill-Derived Methane Gas.....	1901
<i>W Clister</i>	

Benefits from Mini Scale Pilot Tests for Sediment Evaluation and Technology Refinement.....	1909
<i>N Weber, J Hutchens, K Huibregtse, J Gross</i>	
The Development and Implementation of a Nitrogen Critical Load for Ecological Effects in Rocky Mountain National Park.....	1921
<i>T Blett</i>	
SOx Emissions Inventory "On Line" - A Case Study in a Brazilian Refinery	1928
<i>R Correia, R Farauche</i>	
Development of a Field Test Method to Measure Gaseous Air Cleaner Performance in a Multizone Building.....	1933
<i>C Reed, V Henzel, S Nabinger</i>	
Area Source MACT Realities.....	1950
<i>T Dillow, M Dixon</i>	
Applications of Portable Emissions Monitoring Systems (PEMS) in Texas Fleets	1958
<i>E McDonald-Buller, J Spinhirne, Y Kimura, A Webb, C Durrenberger, G McGaughey, S Uribe, D Allen</i>	
Emission Event Investigation With a Detailed Plume Tracking Process Analysis Tool.....	1964
<i>W Vizuete, B Henderson, H Jeffries, B Kim</i>	
An Unbiased Look at the New NAAQS for Particulate Matter	1969
<i>H Rous, E Yan</i>	
Regional Air Quality Under Climate Change Using a Nested Global-Regional Modeling System.....	1974
<i>J Dawson, P Racherla, B Lynn, P Adams, S Pandis</i>	
Determination of Source Apportionments of Coarse Particles During the Regional Air pollution Study (RAPS) in St. Louis, Missouri	1979
<i>I Hwang, P Hopke</i>	
Application of an Apportionment Algorithm to Study Source Influences in the Eastern United States	1991
<i>K Wagstrom, S Pandis</i>	
Improved Building Dimension Inputs for AERMOD Modeling of the Mirant Potomac River Generating Station.....	1995
<i>R Petersen, J Reifsneider, D Shea, D Cramer, L Labrie</i>	
Effects of Plume Subtended Angle on VisibilityImpairment over a Class I Area.....	2009
<i>S Zell, P Catizone, W Richards</i>	
Assessing the Fuller Costs and Benefits of Sustainability Projects.....	2026
<i>D Tanzil, K Murphy, B Beloff</i>	
CMAQ Multi-Pollutant Response Surface Modeling:Applications of an Innovative Policy Support Tool	2031
<i>S Phillips, B Hubbell, J Carey, P Dolwick, N Possiel, T Fox</i>	
Integrating Sustainability into Decision-Making in the Chemical Industry.....	2052
<i>B Beloff, D Tanzil, A Martin, D Schuster</i>	
Impact of a Pre-Combustion Retrofit Device on Vehicular Emissions: A Case Study	2057
<i>S Kanukolanu, S Mattingly, M Sattler</i>	
Estimating Air Emission of the Energy Use of Queretaro Mexico	2073
<i>R Reyna-Caamaño, A Llamas Terrés</i>	
California's URBEMIS Land Use Emissions Model	2085
<i>E Rimpo</i>	
Spatial and Temporal Analysis of Real-World Empirical Fuel Use and Emissions	2097
<i>H Frey, K Zhang</i>	

A Combustion Chamber for Sampling Particulate and Gaseous Polycyclic Aromatic Hydrocarbons (PAH) in Agricultural Smoke.....	2103
<i>L Ashbaugh, H Keshtkar</i>	
Passive Air Sampling for Organic and Inorganic Pollutants under Environmental Stresses	2113
<i>B Mason, D Campbell, E Fujita, B Zielinska</i>	
Gas-Phase Reactions of Mercury and Halogens in Combustion Environments.....	2120
<i>C Senior, A Fry, C Montgomery, J Wendt, A Sarofim, G Silcox, J Lighty, J Bozzelli</i>	
Multiple Electricity Suppliers, Generation Mix and the Effects upon the Bottom Line of the GHG Inventory for a Large Consumer --- the University of California Davis CO₂ Emissions Inventory.....	2133
<i>V Evans, A Pfahl, K Haunschild</i>	
Nitrogen Saturation in the Rocky Mountains: Linking Emissions, Deposition, and Ecosystem Effects	2138
<i>D Campbell, L Nanus, G Ingersoll, M Mast, D Clow</i>	
Removal of Particle from a Semiconductor Manufacturing Process by Using a Modified Scrubber System.....	2144
<i>C Huang, H Wu, T Chen, S Tsai, C Chen, H Chein</i>	
Removal of Acetone Vapors from Air Stream by CNTs/TiO₂ Composites	2154
<i>S Hsu, Y Tsai, C Lu</i>	
Roseville Rail yard Air Monitoring Project (RRAMP)	2159
<i>R Countess</i>	

Volume 4

Source Apportionment of PM₁₀ in Samutprakan, Thailand.....	2169
<i>W Limpaseni, P Suwattiga, K Osataphan, S Bualert</i>	
Environmental Liabilities - New Risks and Solutions	2181
<i>C Bishop</i>	
Zero Waste Policy for Municipal Solid Waste in Taiwan.....	2192
<i>S Ho, S Lee, Y Lai</i>	
Urban Air Pollution On the Next Generation. What are Costs?	2197
<i>D Marrack</i>	
Utilization of Hybrid System Composed of Biofilter and Photo-Catalytic Reactor to Treat Mixed Solvent Vapors	2205
<i>K Lim, E Lee</i>	
Feasibility Study of Technical Treatment Plant for the Recovery of Valuable Material From Copper Containing	2210
<i>J Wu, T Hsiao, W Chen, M Tsai, S Hu</i>	
The Research of Categorizing the CEMS Monitoring Data as a Data Warehouse	2218
<i>T Tseng</i>	
Minimization of Heavy Metal Containing Sludge and Recovery of Metals From Waste Water by Adsorption Using Activated Diatomite	2232
<i>Y Liou, C Wu, Y Wang, S Liang, T Lin</i>	
Dendrochemical Analysis of Trace Metals in a Heavy Metals Contaminated Region of Taiwan	2241
<i>P Tsou</i>	
Removal of Chloride From EAF-Dust by Reactive Roasting at Low Temperature	2245
<i>W Chen, W Chou, C Wu, M Tsai</i>	

Surface Modification of Liquid Crystal on LCD Panel by Microwave Plasma Treatment.....	2251
<i>L Chiang, P Shih, S Hsieh, S Su, J Chang</i>	
Situation and Prospect of Recycling Industry in Taiwan.....	2256
<i>M Ko, Y Chou, J Chang</i>	
Evaluation of Sulfur-Impregnated Activated Carbons Derived from Agricultural Residues for Removal of Low-Concentration Gaseous Mercury	2267
<i>H Hsi, C Chiang, C Chen</i>	
Evaluating the Impact of Low Sulfur Fuels in Vehicular Pollutant Emissions in China.....	2272
<i>H Liu, K He, Y Zhou, L Fu, D He</i>	
Control of Bioaerosols Generated from Wastewater Aeration Processes	2279
<i>Y Kuo, H Hung, K Tsai, C Wu, S Chang</i>	
Air Pollution Cap Strategy for Fossil-fuel Power Plants in Southern Taiwan	2284
<i>J Tsai, Y Yao, H Ye, K Chang, F Jeng, Y Tu</i>	
Air Pollution Fee Strategy - A Successful Experience in Taiwan	2296
<i>J Tsai, F Jeng, L Chang</i>	
Plasma Melting of Incineration Ashes	2305
<i>Y Tuan, J Chang, H Wang, S Ou</i>	
Reduction of Dioxin Emissions from Waelz Process for Zinc Recovery.....	2311
<i>M Chang, K Chi</i>	
Sources and Receptors Correlation for TSP in Medellín	2315
<i>J Bedoya, M Gómez, J Saldaña, D Hoyos, M Correa, F Castrillón</i>	
Relative Accuracy Test Audit (RATA) Requirements for Mercury CEMS	2326
<i>J Serne</i>	
Understanding the Implications of the General Conformity Rule for Marine Dredging Projects	2331
<i>M Wallace, G Siple</i>	
Methodology to Build Noise Maps Based on Geo-Statistics.....	2341
<i>J Bedoya, L Sánchez, E Manotas</i>	
Diesel Emissions in Tennessee.....	2352
<i>T Miller, J Yun, B Johannsen, E Villasi</i>	
Vertical Profiles of Ozone and Particle Formation Rates within the Atmospheric Boundary Layer.....	2365
<i>Y Wu, C Chien</i>	
e-Revolution and Mobilization of Waste Management in Taiwan	2369
<i>C Yang</i>	
The Effects of Cd, Cr and Ni on MSW Anaerobic Digestion	2377
<i>H Lo</i>	
Evaluations of Sources of Nanoparticles in the Ambient Atmosphere.....	2385
<i>Y Wu</i>	
Hexane Decomposition by Electron Beam Technique.....	2395
<i>K Park, K Kim, Y Son, J Kim, Y Sunwoo</i>	
Adding Fe₂O₃ to Coarse Grain Municipal Solid Waste Incinerator Bottom Ash and Sintering to Produce Lightweight Aggregate.....	2401
<i>C Sun, S Gau, Y Chen, C Ho</i>	
An Integrated Impact Assessment on Ozone Air Quality Caused by the Future New Emissions Permitted Through EIA Procedure in Taiwan.....	2413
<i>C Chen, K Chang</i>	

Comparison of Predictions from the Community Multiscale Air Quality Modeling System with the North East Oxidant and Particle Study Results	2418
<i>G Sarwar, S Roselle, R Mathur, W Appel, R Philbrick</i>	
Treatment of Waste CDs to Remove the Major Components.....	2424
<i>C Chen</i>	
Transportation and Land Use Planning to Promote Physical Activity and Improve Public Health	2438
<i>C Porter</i>	
Best Available Retrofit Technology (BART) Reviews, Recent Trends for Western Coal Power Plants.....	2452
<i>R Pearson, J Nall, G Schott</i>	
Using ISCST 3 and the Line Source Approach to Model the Air Quality Impacts Associated with Pollutants Emitted from Mobile Sources of Diesel Transportation for BLS Thermal Power Plant	2457
<i>L Loureiro, P Barbosa, A Moreira, A Rosa, E Saboia, S de Oliveira</i>	
Nitrogen Emissions from Agricultural Sources.....	2469
<i>K James</i>	
An Educational Tool for Sustainable Development Studies	2477
<i>J Sherwell</i>	
Analysis and Real-World Benefits to Local Communities from Control of Large Scale Urban Construction Particulate Matter Emissions	2482
<i>H Hammer, G Comerford, C Chan, M Bertini</i>	
Low Emission Burner for Process Heaters	2502
<i>R Poe, C Baukal</i>	
Preventive Maintenance for Public Communication	2511
<i>S Zummo Forney</i>	
The Great Emissions Roundup: The Texan Approach to Permitting Maintenance, Start-up and Shutdown Emissions and Potential Implications.....	2516
<i>L Read, H Goyette</i>	
Best Practices for Implementing a Global Environmental Management Information System.....	2525
<i>K Modesitt</i>	
Ozone-Initiated Secondary Emission Rates of Aldehydes from Indoor Surfaces in Field Homes: Surface Aging and Regeneration	2526
<i>H Wang, G Morrison</i>	
Exhaust Recirculation--a Technology to Minimize Energy Use in Aircraft-Painting Operations	2541
<i>J Wander, G Doddington, Q Hart</i>	
Impact on Basement Moisture Using ASD Radon Control Systems	2550
<i>B Turk, E Fisher, J Hughes, J Straube, R Lewis, M Pyles, M Shields</i>	
Enhanced Air Emissions Monitoring Using a Real-Time EDMS	2562
<i>B Funke, P Glaves</i>	
Source Apportionment and Trends Analysis of Houston Fine Particulate Matter.....	2591
<i>B Cochran, A Hendler, S Briscoe</i>	
Going One Step Beyond: A Neighborhood Scale Air Toxics Assessment in North Denver (The Good Neighbor Project).....	2609
<i>G Thomas, D Bain, S Williams</i>	

Development of Photocatalytic Oxidation Reaction Rate Constants for Compounds Commonly Emitted from Wastewater Treatment Plants and Solid Waste Landfills.....	2614
<i>M Upadhyay, M Sattler</i>	
Chemical Kinetics of a Monoterpene with Ozone on a Model Indoor Surface	2632
<i>M Springs, G Morrison</i>	
A Cross-Evaluation of Two Regulatory Air Quality Model Applications for an Ozone Episode	2648
<i>B Kim, J Boylan, A Marmur, M Khan</i>	
Obliterating the Dust in the Antelope Valley.....	2653
<i>R Farber</i>	
The Greenidge Multi-Pollutant Control Project: Key Technical and Economic Features of a New Approach for Reducing Emissions from Smaller Coal-Fired Units	2679
<i>D Connell, D Roll, W Rady, R Abrams, W Huber</i>	
Ghost in the Machine: Mercury Emissions from Non-Recovery Coking Operations	2684
<i>L Traves</i>	
Trends of Vehicular Emissions Due to the Effect of ETHOS FR as Fuel Additive: A Case Study.....	2699
<i>S Satyanarayan, S Mattingly, M Sattler</i>	
Modelling Air Pollution Dispersion in Urban Canyons of Downtown Toronto.....	2711
<i>R Yang, A Ciccone, C Morgen</i>	
The Determination of Emission Fluxes in a Military Jet Engine Plume Using Optical Remote Sensing.....	2723
<i>R Hashmonay, R Kagann, R Shores, D Harris</i>	
Development and Maintenance of ISO 14001 Environmental Management Systems Top 10 List	2741
<i>K Malosh</i>	
Issues Involving the Development and Implementation of Operation and Maintenance Plans and Startup, Shutdown, and Malfunction Plans to Comply with the Integrated Iron and Steel MACT Rule.....	2749
<i>S Felton, R Hawks</i>	
Elements of Environmental Compliance Demonstration Considerations	2756
<i>O Wolff, B Bencaz</i>	
Compliance Issues in the Inorganic Chemical Industry	2763
<i>L Carson</i>	
Full Scale Bioreactor to Treat VOC from Oil Refinery in Brazil.....	2768
<i>B Martignoni, R Correa, A Rutiquewiski, V Santiago</i>	
Experts Evaluation of the Environmental Situation in Mexico. The Good, the Bad and the Suggested	2772
<i>E Herrerias, R Sosa, H Bravo</i>	
The Use of Response Surface Meta-modeling and the Visual Policy Analyzer (VPA) Software to Support Air Quality Policy Decision Making	2786
<i>D Mooney, M Morara, B Hubbell</i>	
Combining Historical and Contemporary Exposure Data to Evaluate Silica-Related Lung Cancer	2800
<i>H Hosgood, M Slade, J Borak, G Sirianni</i>	
Particulate Matter at Two Large North American Airports	2807
<i>R Wayson, J MacDonald, A Martin, G Fleming, G Noel</i>	

A Review of Different Methods for Identifying World Trade Center Dust in Buildings.....	2816
<i>P Scott, K Unice, J Panko</i>	
FOA 3.0: An Advance Estimation for Aircraft Particulate Matter.....	2827
<i>R Wayson, R Iovinelli, G Fleming</i>	
The Evolution of Environmental Management in Dubai	2843
<i>W Jones, R Salman</i>	
AEDT Global NOx Demonstration	2860
<i>A Martin, R Wayson, G Fleming, G Noel, G Noel, R Iovinelli</i>	
The Binding of Flue Gas Components on CaO, TiO₂, Pd, Au and PdAu Alloy	2878
<i>E Sasmaz</i>	
Applying Lean Six Sigma to Environmental Management Systems	N/A
<i>S Burton</i>	

Volume 5

Emission Calculations for Vapor Balancing of Crude Oil Lightering Operations.....	2888
<i>J Marteny, M Dixon</i>	
Implications of AERMOD on Chemical Plant	2893
<i>W Jones</i>	
Landfill Noise.....	2907
<i>A Martin, R Wayson</i>	
Pollution Prevention Successes of the PowerFrame™ Technology Implementation in the Lead-Acid Battery Manufacturing Industry	2914
<i>L Carlson, D Hastings</i>	
PM_{2.5} Chemical Speciation Network: External Quality Assurance and Performance Audit Program	2922
<i>J Smiley, E Boswell, S Taylor, J Flanagan, R Jayanty, M Peterson, E Hardison, L Greene, A McWilliams</i>	
A Comparative Analysis of Atmospheric Aerosol Observations from Remote Sensing and In-situ Instrumentation.....	2927
<i>A Prados, J Engel-Cox, R Hoff, K McCann, H Zhang</i>	
Municipal Solid Waste Landfills: A Round Peg In A Square Hole As Far As Air Permitting Goes	2932
<i>B Maillet</i>	
Modeling Dispersion During Prolonged Calm Conditions	2935
<i>D Heinold, O Kostrova</i>	
DoD Emerging Contaminants Initiative	2945
<i>P Yaroschak</i>	
Remote Sensing Data and the 3D Air Quality System (3D-AQS)	2946
<i>J Engel-Cox, A Prados, K McCann, H Zhang, R Hoff</i>	
Impact of Diurnal Changes in Truck Speed on Roadway Emissions Calculated with MOBILE6.2	2950
<i>J Houk, M Claggett, T Miller</i>	
Use of Equivalent Building Dimensions (EBD) to Characterize Upwind Terrain Wake Effects for AERMOD Input	2955
<i>R Petersen, J Reifsneider, R Paine, K Schmidt</i>	
Developments in Sensor Technology for Emissions Monitoring Applications	2966
<i>J Jahnke</i>	

Approaches to Conducting PM_{2.5} Model Attainment Demonstrations	2984
<i>H Ellis, A Dittenhoefer, G Srinivasan, A Yousuf, S Ramaswamy</i>	
A Modeling Methodology to Estimate the Potential for Ground-Level Fogging from Wet-Scrubbed Plumes	2992
<i>A Dittenhoefer, H Ellis, M Hirtler, B Egan</i>	
An Integrated Sustainability Decision-Support Toolkit	2998
<i>D Tanzil, G Ma, B Beloff</i>	
Practical Implications of Varying User Interpretations of AERMOD Sectoring Guidance Through Sensitivity Studies	3003
<i>J Gill</i>	
Changes in State Air Pollution Compliance Practices Due to Increased Title V and Other Permit Recordkeeping and Reporting Requirements.....	3024
<i>H Ellis, T White, A Pinto, J Handley</i>	
A Strategic Metrics Roadmap: GEMI Metrics Navigator™.....	3043
<i>L Montgomery, J Kearney, B Beloff</i>	
Use of Magnesium Hydroxide for Reduction of Plume Visibility in Coal-Fired Power Plants.....	3048
<i>L Benson</i>	
Demonstrating Compliance with Sub-ppm Acid Mist Limits Can EPA Method 8 Handle the Challenge?	3061
<i>S Evans, K Aita, E Chi</i>	
Mass Flux Relations of Various Pollutants in Road Runoff	3075
<i>V Jain, D Apul</i>	
Kinetic Modeling of Enhanced Mercury Removal	3084
<i>B Deshpande, A Martinez</i>	
Source Apportionment of Air Toxics Downwind of a Heavily Industrialized Area Using High Time Resolved Concentration Measurements	3094
<i>J Logue, K Huff-Hartz, A Lambe, N Donahue, A Robinson, D Stern, J Maranche</i>	
Potential Best Practices for Reducing Greenhouse Gas (GHG) Emissions in Freight Transportation.....	3099
<i>H Frey, P Kuo</i>	
Fuel Consumption and Emissions Comparisons between Ethanol 85 and Gasoline Fuels for Flexible Fuel Vehicles	3104
<i>H Zhai, H Frey, N Roushail, T Farias, G Gonçalves</i>	
Standoff Detection and Identification of Chemical Agents Using Imaging FTIR	3109
<i>M Chamberland, A Vallières, V Farley, J Giroux, A Villemaire, J Legault</i>	
Analysis of Ambient Organic Molecular Marker Data in Pittsburgh Using Positive Matrix Factorization	3118
<i>M Shrivastava, A Robinson, R Subramanian, W Rogge</i>	
Methodology for Activity, Fuel Use, and Emissions Data Collection and Analysis for Nonroad Construction Equipment	3124
<i>H Frey, W Rasdorf, S Pang, K Kim, S Abolhasani, P Lewis</i>	
Environmental Technology Verification of Baghouse Filtration Products	3129
<i>A Trenholm, E Hartzell, M Kosusko</i>	
Dampening Concentration Fluctuations for Use Upstream of Biofilters and Oxidizers using Concentration-Controlled Desorption of Activated Carbon	3141
<i>Z Hashisho, H Emamipour, D Cevallos, M Rood, K Hay, B Kim</i>	
Development of a Bench Scale NOx Emission Control System Using Enhanced Oxidation, Scrubbing and Biofiltration	3155
<i>J Cabezas, A Martinez</i>	

Continuous Carbon Monoxide Monitoring by Using a Wireless Sensor Network	3164
<i>C Chaiwatpongsakorn, T Keener, W Toruksa, M Lu, D Wang, D Agrawal</i>	
Verifying the Performance of Pesticide Spray Drift Reducing Technologies.....	3173
<i>M Kosusko, K Bullock, N Birchfield</i>	
Mercury Binding on Activated Carbon	3177
<i>B Padak, J Wilcox</i>	
International Comparability of Ozone Reference Standards.....	3192
<i>J Norris, F Guenther, J Viallon, R Wielgosz</i>	
Ambient Concentrations of Air Toxics Compounds in Close Proximity to Highways	3199
<i>K Black, V Martinez, M Gaber, R Baldauf, E Thoma, D Costa</i>	
A Hybrid Technology Composed of Activated Carbon Adsorption/Desorption System and Biofilter to Treat Fluctuating Toluene Concentrations	3212
<i>P Gor, A Martinez</i>	
The Denver Urban Air Toxics Assessment: Methodology, Results and Risks	3219
<i>G Thomas, S Williams, D Bain</i>	
Successful Implementation of Operational Compliance Management and Environmental Management Information Systems	3236
<i>R Erbes, T O'Sullivan</i>	
Comparison of SEARCH and STN PM_{2.5} Monitor Data for Source Prediction Calculations.....	3241
<i>D Hammond, A Williamson, E Edgerton, A Bartolucci</i>	
Residual Risk Assessment of the Aerospace NESHAP Issues and Lessons Learned at Hill Air Force Base	3256
<i>H Lee, S Van Klooster, M York, M Cary, G Palmer</i>	
Diesel Exhaust Risk Associated with Aggregate Mining and Processing.....	3273
<i>R Erbes</i>	
Site-Specific Compliance Demonstration for Hydrochloric Acid Emissions for Non-Utility Boilers Subject to 40 CFR 63 Subpart DDDDD (Boiler MACT).....	3278
<i>J Wagner, D Miller, S Keener</i>	
Ground-based Lidar Measurements of Dust Plumes Generated from Unique Military Activities.....	3304
<i>K Du, M Rood, B Kim, M Kemme, R Hashmonay, R Varma</i>	
Options and Challenges for Older Coal-Fired Boilers Complying with the Boiler MACT Rule	3318
<i>C Hibbard, R Saikaly, T St. Clair</i>	
A Comparison of Greenhouse Gas Emission Reduction Projects at Three Different Landfills - Lessons Learned.....	3325
<i>S Metivier, B Maillet</i>	
Identifying the Sources Affecting the Air Quality in the Lower Rio Grande Valley Area Using CALPUFF	3330
<i>M Nayak, A Martinez</i>	
Application of a Microscopic Chemical Imaging System to Identify Soil Contaminated by Military Activity	3349
<i>A Gertler, J Gillies, D Moshe</i>	
New Source Permitting Case Study: Air Toxic Requirements for Non-Major NSR Projects	3356
<i>G Mesing, J Evans, J Wagner</i>	
Ozone Interactions with Human Hair: Ozone Uptake Rates and Product Formation	3366
<i>L Pandrangi, G Morrison</i>	

An Assessment of Diesel Particulate Matter Cancer Risk from Heavy Duty Truck Emissions Emanating Near Residential Areas	3379
<i>T Held</i>	
Establishing the Trend of Fine Particulate Concentrations under Low Wind and Lake Breeze Conditions in Cleveland, Ohio.....	3395
<i>C Varadarajan, A Kumar</i>	
AERMET versus MPRM: Sensitivity of Input Parameters and Comparisons with Atmospheric Measurements in Denver	3409
<i>G Thomas</i>	
Building for Sustainability	3414
<i>R Morse</i>	
Impact of Fly Ash on Mercury Speciation in Flue Gas.....	3418
<i>X Chen, W Sun, R Vidic</i>	
Landfill Gas as a Liquefied Natural Gas Fuel Source for Refuse Trucks.....	3431
<i>J Zietsman, D Lord, B Gokhale, M Rowan</i>	
Observations of Airborne Pollutants and Deposition During the 2006 Rocky Mountain Airborne Nitrogen and Sulfur (RoMANS) Study	3445
<i>J Collett, C Gorin, S Raja, C Carrico, T Lee, F Schwandner, D Day, A Sullivan, G McMeeking, S Kreidenweis</i>	
Meteorological Issues Associated with Nitrogen and Sulfur Deposition at Rocky Mountain National Park, CO.....	3450
<i>K Gebhart, M Barna, B Schichtel, M Rodriguez, J Hand</i>	
Evaluation of Methods to Reduce Exhaust Penetration into School Buses.....	3454
<i>D Fitz, D Pankratz, A Winer, K Kozawa, E Behrentz, S Fruin</i>	
The Third Generation LADR - LDAR3	3459
<i>Y Zeng, L Zhou, K Calhoun, N Katwala</i>	
Emissions Estimation Model for At-Grade Rail Crossings.....	3465
<i>J Zietsman, S Roop, L White, L Li</i>	
Illustrating Humidity for Building and Air & Waste Management Professionals	3482
<i>R Morse</i>	
Control Emissions in a Mexican Power Plant	3485
<i>A Arias</i>	
Measurement of PM₁₀ Emission Rates from Paved and Unpaved Roads in the Southwestern U.S. Using the SCAMPER Mobile Platform with Real-Time Sensors.....	3501
<i>D Fitz, K Bumiller</i>	
Reduction of Nitrogen Oxide with Hydrocarbon by Using Zeolite Contained Metal Catalyst	3515
<i>M Liu, H Lo, R Weng, C Lin</i>	
Rain Water and Flood Damage Remediation - a Case Study	3527
<i>R Morse</i>	
Mold Remediation When the Building Remains Occupied - a Case Study.....	3532
<i>R Morse</i>	
Specification of Surface Parameter Values for the Aermet Preprocessor for Geographical Areas with Atypical Seasonal Patterns	3535
<i>L Bentley, T Bowie, G Hoch, D Daugherty</i>	
The Future of Legacy Industrial Boilers : MACT Compliance Experiences	3547
<i>W Kaiser</i>	
Development of Novel CO₂ Adsorbents for Capture of CO₂ from Flue Gas.....	3552
<i>D Fauth, M Gray, S Hedges, J Hoffman, H Pennline</i>	

Simulation of Electrothermal/Microwave Swing Adsorption with Organic Vapor and Activated Carbon Fiber Cloth.....	3565
<i>H Emamipour, Z Hashisho, M Rood, P Sullivan, K Hay, B Kim</i>	
Addressing Global Warming (Climate Change) in Environmental Impact Statements (EIS) and Environmental Impact Reports (EIR) in the Post AB-32 Regulatory Environment	3576
<i>T Held</i>	
Performance Evaluation of Wet Electrostatic Precipitator at AES Deepwater	3594
<i>S Kumar, R Triscori, A Lau, K Niznik</i>	

Volume 6

Enhanced HF Scrubber Performance Using the Fluidized Bed Crystallizer Process	3606
<i>H Wu, C Huang, M Lee, H Chein</i>	
High Dust SCR Succeeds at Cementeria di Monselice	3617
<i>A Linero, U Leibacher</i>	
Moravia Medellin Open Dump: An Overtime Closure	3628
<i>J Bedoya, G Peñuela, G Londoño Gaviria</i>	
Transportation Conformity: Meeting the New Federal Rule for PM_{2.5} and PM₁₀ Hotspot Conformity	3638
<i>H Rous, M Page</i>	
Carbon Monoxide and Particulate Matter Less Than 2.5 μm Generated by Wood and Natural Gas Cooking Fuels in Semi-Rural Pakistani Kitchens	3643
<i>A Siddiqui</i>	
Land Use and Soil Contamination - Aspects of Environmental Quality in The City of Sao Paulo, Brazil.....	3656
<i>A Teixeira, C Morinaga</i>	
Air Quality Modeling in Hong Kong on Particulate Episodes	3666
<i>H Kwok</i>	
A Hybrid ARIMA and Artificial Neural Networks Model to Forecast Particulate Matter in Urban Areas: The Case of Temuco, Chile	3672
<i>L Diaz-Robles, J Ortega-Bravo, M Ramirez, J Fu, G Reed</i>	
The Clean Air Mercury Rule and State Implementation	3679
<i>B Toole O'Neil, M Grossman, C Heintz</i>	
Assess Regional Impacts of Particulate Matter in Beijing Area	3688
<i>J Fu, C Jang, D Streets, Q Zhang, L Wang</i>	
Surface Characterization of Electrochemically Oxidized Activated Carbon Fibers and Their Capture Performance of Hazardous Air Pollutants	3696
<i>Y Chiang, T Chen, C Lee</i>	
Characterization of Sub-1um Particulate Matter Distribution inside Public Transport Buses.....	3713
<i>A Vijayan, A Kumar, M Abraham</i>	
Odor Load Estimation for a Pharmaceutical Plant by AERMOD/OP-FTIR	3727
<i>W Chang, T Chang, S Chen, J Chang</i>	
Air Districts in California are Targeting New Land Use Development as a Mean of Reducing Emissions from Vehicles	3740
<i>M Slavick</i>	
Reviewing the Benefits and Drawbacks of Clean Development Mechanism (CDM).....	3755
<i>H Rao</i>	

Biofiltration of Methane Issued from Landfills, an Experimental Lab-Scale Study	3763
<i>J Nikiema, M Heitz</i>	
Use of Individual Particle Analysis for Characterization of Source-derived PM_{2.5} at Urban Sampling Sites in Edmonton, Alberta	3770
<i>W Kindzierski</i>	
Poorly-Ventilated Elementary School Classrooms: A Magnification of Problems	3783
<i>R Corsi</i>	
Indoor/Outdoor VOC Levels in a Community Adjacent to Oil Sand Extraction and Production Facilities in Northern Alberta	3793
<i>W Kindzierski</i>	
Green Building Materials: Ozone Reactivity and Affinity for Fungal Growth	3805
<i>R Corsi</i>	
Characterization of Particle Contamination in an Apartment Near the Road in Summer Using Five Aerosol Instruments	3817
<i>S Lee, G Bae</i>	
Emissions of Ethylene Glycol and 2,2,4-Trimethyl-1,3-Pentanediol Monoisobutyrate from Latex Paint: Large Chamber Experimental Results and Implications	3823
<i>R Corsi</i>	
Biorganic Municipal Waste Treatment - A New Approach to Strengthen Integrated Waste Management in China	3835
<i>B Raninger, R Li</i>	
Comparison of Primary Emission and Secondary Production on High Fine-Particles Loading in Taiwan	3850
<i>C Liu, Y Lee</i>	
The Effect of Dilution on The Organic Composition of Diesel Particulate Matter	3855
<i>M Lu, F Liang, T Keener, E Birch</i>	
Regional Modeling to Demonstrate Regional Progress toward Natural Visibility Conditions at Class I Areas throughout the United States	3875
<i>R Morris, B Wang, B Koo, G Tonnesen, T Tesche, D McNally, G Stella</i>	
Guidance in the Use of Photochemical Grid Models for Determining Whether Sources Have a Significant Contribution to Visibility Impairment at Class I Areas	3890
<i>R Morris, U Nopmongcol</i>	
Geographic Information System Applied to Urban Aerosols in Altamira, Mexico	3906
<i>V Mugica, E Ortiz-Romero-Vargas, R Flores-Rangel, P Rodriguez-Espinosa, J Montes de Oca-Valero, P Rodríguez-Espinosa, J Montes de Oca-Valero</i>	
Application of Three Receptor Models for PM_{2.5} in Mexico City	3917
<i>V Mugica, E Ortiz, R González, R Vallesa</i>	
A Model for Creative Waste Management System - Environmental Science and Technology Park in Taiwan	3927
<i>C Chao</i>	
Comparison of Carbonyl Compounds Emissions from Petroleum Diesel and Biodiesel Fuels	3931
<i>M Chai</i>	
Uncertainties in CASTNET NO₃- and HNO₃ Measurements	3935
<i>C Rogers, T Lavery, H Howell</i>	
CALPUFF Analysis of Regional Haze Retrofit Options	3947
<i>E Liebsch, E Grimm</i>	
Planned Growth: Successes and Challenges	3959
<i>H Rous, M Hagmann</i>	

3M MACT JJJJ Compliance Experiences Using EPA Method 204 Alternative Capture Efficiency Protocols	3967
<i>J Osborne</i>	
Characterization of Particulate and Gaseous Emissions of a C-130H Aircraft	3987
<i>E Corporan, A Quick, M DeWitt</i>	
The Influence of an Integrated Pulp and Paper Mill on Community Levels of Total Reduced Sulphur (TRS) and PM_{2.5}.....	4003
<i>B O'Connor</i>	
Comparison of Non-Parametric Methods for Assessing Trends in Mercury Wet Deposition.....	4018
<i>C Lehmann, D Gay, M Nilles</i>	
Ozone and Particulate Modeling and Performance Analysis Over the Eastern US Using an Upgraded CALGRID Photochemical Model	4023
<i>G Moore, R Londergan, D Healy, J Underhill</i>	
"Nuisance Dusts"- Validation and Application of a Dry Deposition Method for Total Dustfall	4036
<i>G Hunt</i>	
Air Permitting Implications of the Revised PM_{2.5} National Ambient Air Quality Standards on the Portland Cement Industry	4057
<i>J Morrison, D Sweeney</i>	
Stabilization and Recycling of Electric Arc Furnace Dust with Aluminum Dross.....	4061
<i>K Wang, I Chiou, Y Lin, C Lee</i>	
In-situ Treatment of Contaminated Soils with Petroleum Hydrocarbons	4076
<i>B Kura, M Tittlebaum</i>	
Improving of Refuse Slag Quality by Recrystallization Process	4087
<i>K Wang, I Chiou, Y Lin, C Lee</i>	
Pozzolanic Activity and Engineering Properties of Blended Cement with Vitrified Municipal Fly Ash Slag	4099
<i>K Wang, C Lee, I Chiou, Y Lin</i>	
Impact of Marine Emissions on Air Quality.....	4115
<i>M Samaali, S Cousineau, M Sassi, R Pavlovic, H Landry, V Bouchet</i>	
The Role of Emission Changes in Future Air Quality Over US	4120
<i>E Tagaris, K Liao, K Manomaiphiboon, A Russell, S He, J Woo, P Amar, L Leung</i>	
Emission Profiler Calculation and Reporting Software Targets NJDEP Pilot Plant, R&D General Permit Compliance	4126
<i>E Dimfeld, F Kohler, J Takacs</i>	
Challenges and Prospects for Sorbent-Based Mercury Emissions Monitoring and Testing	4145
<i>L Coyne, S Winter, V Schmid, J Wright</i>	
Risk Based Compliance Alternative for Boiler MACT	4150
<i>G Misra</i>	
Instituting a Web-based Project Management System for Performance Based Contracts	4159
<i>M Kimes</i>	
Surface Mobile Monitoring in Victoria, Texas: Assessment of Regional Transport and Concentration Profiles of Ozone and its Precursors	4164
<i>C Durrenberger</i>	
Proposed Ozone Modeling for PSD Permit Evaluation.....	4169
<i>C Durrenberger</i>	

Evaluation of the VOC Emissions Inventory at a Chemical Plant in Victoria, Texas	4174
<i>C Durrenberger</i>	
Occupational Exposure Assessment (OEA) : A Qualitative Risk Assessment Methodology	4181
<i>C Brehm, W Lehew</i>	
Permitting and Emissions for IGCC Coal Power and Coal to Liquid Fuel Plants	4196
<i>G Brown</i>	
Technology for Confined Space Entry Program Management.....	4201
<i>R Krivan</i>	
The Proper Selection and Use of Innovative Sample Collection and Field-Based Analytics	4206
<i>M DeJohn</i>	
NOx Cement Industry Emission Control Technology Update.....	4221
<i>R Schreiber, C Russell, J Evers</i>	
BART and Regional Haze Program Experience in the Pacific Northwest.....	4226
<i>D Caniparoli, M Yansura, J Willenberg</i>	
Impact of Sulfur Oxides on Mercury Capture by Activated Carbons	4234
<i>A Presto, E Granite</i>	
Soil Gas, Sub-slab Vapor and Air Sampling Using Passive Samplers.....	4248
<i>J Hodny, J Whetzel</i>	
Bench-Scale Study of Catalytic Oxidation of Mercury in Flue Gas	4257
<i>A Presto, E Granite</i>	
Preparing Modeling Protocols for Regulatory Modeling Analyses	4264
<i>G Schewe</i>	
Best Available Control Technology Analysis for Modification of Engine Test Cells at Tinker Air Force Base.....	4274
<i>R Kaggal, H Saxion, T Wheeler</i>	
Evaluation of Urban Boundary Layer Parameters in AERMOD for Poorly Defined Urban Areas.....	4295
<i>C Mukai, T Bowie, G Hoch, D Daugherty</i>	
An Overview of the ROcky Mountain Atmospheric Nitrogen and Sulfur Study (ROMANS)	4309
<i>W Malm, B Schichtel, M Barna, K Gebhart, D Day, J Collett, S Kreidenweis, C Carrico, T Lee, F Schwandner</i>	
Preliminary Regional Air Quality Simulations for the Rocky Mountain Atmospheric Nitrogen and Sulfur Study (ROMANS).....	4318
<i>M Barna, K Gebhart, B Schichtel, W Malm, J Vimont, M Rodriguez</i>	

Volume 7

PM_{2.5} Chemical Speciation Results For Texas - 2001-2005	4322
<i>R Tropp, J Chow, J Watson, S Kohl</i>	
Implementation of Risk Management Plan and Process Safety Management Requirements at Clean Fuel Facilities	4337
<i>A Chemburkar, J Koehler, A Estrada</i>	
Characteristics of PBDD/Fs in the Atmosphere of Suburban, Urban and Heavy Industrial Area in Taiwan	4352
<i>L Wang, G Chang-Chien</i>	

Development of an Air Lift Associated with Immobilized Thiosphaera pantotropha Cell Beads to Treat Gaseous Acetone Effluent	4355
<i>S Hwang, H Chen, K Huang, Y Lin, J Lyuu</i>	
What Should Environmental Engineers Know About Noise Control?	4360
<i>H Cota, T Thatcher, M Bastasch, R Wayson</i>	
Emission Factors (Proposed) For Abrasive Blasting Materials.....	4378
<i>M Serageldin</i>	
Air Force Institute Of Technology Civil Engineer and Services School Environmental Education Opportunities	4391
<i>D Van Schaack</i>	
Direct-Push Investigation (DPI) of a Jet Fuel Pipeline Release and 3-D Analysis of the LNAPL Body.....	4396
<i>J Burawa, D Fisher</i>	
In-Situ Groundwater Remediation at an Eastern Pennsylvania TCE Site.....	4401
<i>M Maloney</i>	
An Evaluation of AERMOD™s Performance in an Urban Dispersion Environment	4406
<i>J Connors, R Paine</i>	
A Comparison of Solar Radiation and Net Radiation Measurements from an AERMOD Meteorological Monitoring Program	4441
<i>D Holland, D Dix</i>	
Carbon Dioxide Capture and Separation Techniques for Gasification-Based Power Generation Point Sources	4450
<i>H Pennline, D Luebke, K Jones</i>	
Study on the Influence of the Traffic Flow Pattern on the Air Quality in the Long Hsue-shan Tunnel.....	4464
<i>C Chang, S Lin</i>	
Theoretical Kinetics of Oxidized Hg.....	4476
<i>T Hisano</i>	
ALSTOM's Mer-Cure™ Technology for Mercury Control in Coal-Fired Boilers	4481
<i>S Kang, Y Lachowic, L Brickett</i>	
Qualitative PM_{2.5}/PM₁₀ Conformity Determinations: Case Studies	4494
<i>J Soden</i>	
An Evaluation Framework for Indirect Source Review (ISR) Programs: Current Controversies and Future Prospects.....	4507
<i>A Zia, W Arenstein</i>	
Hazardous Waste Determinations: Organizing and Exploiting Generator Knowledge	4519
<i>M Haight, W Downs</i>	
Hazardous Waste Characterization: Exploiting and Organizing Institutional Knowledge to Reduce Cost	4524
<i>M Haight, W Downs</i>	
Minimizing Environmental and Safety Noncompliance Risk.....	4529
<i>D Hansell, S Rasmussen</i>	
Quantifying VOC Emissions Based on Hazardous Materials Issues Simplifies Compliance	4534
<i>S Allen, B Hobster</i>	
Maintaining Hazardous Material Operations during the Transition to EESOH-MIS	4538
<i>M Swiger, K Garrett, B Hobster</i>	
Emission Inventory Development and Management at Federal Facilities	4543
<i>V Apte</i>	

Greenhouse Gas and Energy Initiatives: Possible Implications and Emission/Energy Reduction Strategies for DoD	4549
<i>M Stunder</i>	
Field Experience with Mercury Monitors	4554
<i>N Sarunac, M Seibel, D Cipriano, J Ryan, J Schakenbach, R Deza</i>	
Absorption and Adsorption Of SO₃/H₂SO₄ By Coal Fly Ash.....	4582
<i>J McCain</i>	
An Improved Probe For Measuring Vapor-Phase and Aerosolized SO₃/H₂SO₄.....	4594
<i>J McCain</i>	
Carbon Dioxide Removal from Flue Gas of Coal-Fired Power Plants Using Dry Regenerable Carbonate-Based Sorbents in a Thermal-Swing Process.....	4604
<i>T Nelson, P Box, D Green, R Gupta, J Figueroa</i>	
CO₂ Capture Utilizing Solid Sorbents	4609
<i>R Siriwardane, A Layne, C Robinson</i>	
A Compact System for the Generation and Sampling of Diesel Particulate Matter.....	4614
<i>A Armendariz</i>	
A Miniature ESP as an Aftertreatment Device for Diesel Exhaust.....	4619
<i>A Armendariz</i>	
ESP Capture of Activated Carbon as a Function of Specific Collecting Area, Sulfur Trioxide Concentration, and Face Velocity.....	4625
<i>K Cushing, J Irvin, R Chang</i>	
Is Radon Mitigation Technology Good Enough for Vapor Intrusion Mitigation?.....	4632
<i>M Distler</i>	
Near Road Nitric Oxide and Hydrocarbon Measurements with DUV DOAS	4638
<i>E Thoma, R Shores, E Thompson, R Baldauf</i>	
Split Economic Incentives and Other Disruptions to Conventional Economic Theories	4643
<i>V Novstrup, P McDaniel</i>	
Identification and Qualitative Assessment of VOC Emissions from Tunnel Ventilated Poultry Housing	4656
<i>G Parcsi</i>	
SO₃ Control and Wet ESP Technology	4669
<i>P Doonan, J Reynolds</i>	
Increasing the Return on Investments in Regional Scale Modeling Projects	4677
<i>P Barickman, T Cruickshank</i>	
Fine Particle Measurement and Control	4689
<i>R Nicolo</i>	
SCR Catalyst Regeneration - Technology and Experience	4695
<i>S Hinton</i>	
Design Considerations for Generating Ammonia from Urea For NOx Control with SCRs ...	4698
<i>H Spencer, H Peters, W Hankins</i>	
Life Cycle Results of Criteria Pollutant Emissions of Selected Vehicle/Fuel Systems	4701
<i>M Wang, H Huo, Y Wu</i>	
Indoor Pollution from Building Materials and Ventilation Rates	4718
<i>I Senitkova</i>	
Successful Strategies for Companies to Maintain Profit and Minimize Risk in the Brave New World of Greenhouse Gas Regulation	4723
<i>A Bedwell</i>	

Evaluation of Emission Pattern, Quantity and Control of Korean Food Waste Composting Odorants in a Pilot-Scale Packed-Bed Scrubber.....	4733
<i>A Anonas, E Cho, W Chung</i>	
PM₁₀ Forecasting System in Santiago, Chile	4747
<i>P Perez, E Gramsch</i>	
Fine Grid Modeling of Total Reduced Sulphur Exceedences for the Township of Taylor in North-Eastern British Columbia, Canada.....	4751
<i>T Clark, M To, D Fudge</i>	
Simultaneous Ammonia Gas Absorption and Nitrification Process in a Single Ammonia Deodorizing Bio-Scrubber Reactor	4771
<i>A Anonas, G Nisola, J Orata, E Tuuguu, M Galera, D Farnazo, J Changkyu, E Cho, W Chung</i>	
Recent Air Pollution Control and Permit Experience in the Lime Industry	4784
<i>S Klafka</i>	
TCLP Characteristics and Reuse of Petroleum Contaminated Soil in Hot Asphalt Mix Concrete.....	4815
<i>A Jamrah, A Al-Futaisi, H Hassan, S Al-Oraimi</i>	
Conducting a Baseline GHG Inventory: Methodologies and Lessons Learned.....	4818
<i>K Blue, M Ford</i>	
Use of FTIR Spectroscopy and Gas Chromatography to Mass Spectrometry to Evaluate VOCs Emissions from a Wastewater Treatment Plant in a Petrochemical Processing Area.....	4827
<i>J Yang, P Chang, H Liou, N Liou</i>	
Isolation, Characterization and Application of Hydrogen Sulfide-Degrading Alcaligenes sp. Strain S-8 in Biotrickling Filter	4837
<i>E Tuuguu, E Cho, W Chung</i>	
Screening Endocrine Disruptors from the Combustion of Electronic Waste.....	4849
<i>C Owens</i>	
Optical Sensing of Fine Particles PM₁₀, PM_{2.5}, PM₁ Caused by the Demolition of an Administration Building in the City of Duesseldorf, Germany.....	4856
<i>K Weber, C Fischer, G van Haren</i>	
Policy of Interventions for Air Pollution Control in Mumbai: Cost Benefit and Perspective of India's 25 years of Air Act Implementation.....	4862
<i>R Kumar, D Boralkar, A Deshpande, T MacDonald</i>	
Control Strategies for Reducing Particulate Matter in the Los Angeles Basin	4872
<i>J Baldino</i>	
AirGRID: An Innovative Application to Integrate Maps, Documents and Data.....	4882
<i>B Ziebro, A Schaefer, C Nobel</i>	
Planning Field Tests for Quantifying Smart LDAR Instrument Detection Capabilities	4887
<i>C Shockley, J Siegell, G White, D Smith, W Sadik</i>	
Data Collection and LDAR Data Management for Optical Imaging	4891
<i>C Patterson, J Cermenaro</i>	
Control of Mercury in Cement Kilns.....	4899
<i>R Schreiber, C Kellett, J Evers</i>	
Application and Performance of CMAQ Model in Near Realtime Air Quality Forecasting for New York State.....	4904
<i>P Doraiswamy, C Hogrefe, W Hao, K Civerolo, J Ku, G Sistla</i>	

Security at Chemical Manufacturing Facilities	4909
<i>Richard D. Siegel, Kevin Eldridge, John Guest, John Winters, Larry McEvoy, Ron Chittim, William E. Allmond, Carl Prine, James F. Powers Jr., Henry Boswell</i>	
Innovative and Collaborative Rule Making: Defense Land Systems and Miscellaneous Equipment (DLSME) National Emission Standard for Hazardous Air Pollutants (NESHAP)	4912
<i>Howard Saxon, Kim Teal, Colleen Rathbun, Derek Newton, Patrick Taylor</i>	
NSR Reform: Recent Developments and Issues	4913
<i>Gary McCutchen, John Bunyak, Ken Weiss, Scott Turner, Bill Wehrum</i>	
Environmental Enforcement - Public and Private Perspectives	4914
<i>Lee Hoffman, Robert Reiley, Neil Bigioni, Jeffrey Lettrich</i>	
Miniature Optical Imaging Sensor for Smart LDAR Detection and Quantification Using Diffractive Optical Lenslet Arrays	4915
<i>M Hinnrichs, N Gupta</i>	
Interactions Between Climate Change and Traditional Air Programs.....	4921
<i>Lydia Wegman, Jack Broadbent, Dr. S.T. Rao, Dale Evarts</i>	
Oil Sand and the Future.....	4922
<i>Alex Mackenzie, Ahmed Idriss, Jay Nagendren, Randy Rudolph, Michael Burt, Don Thompson, Greg Unrau</i>	
Emerging Environmental Initiatives & Trends	4927
<i>Carrie Yonley, Becky Keogh, Michelle Lusk, Jim Yarbrough, Tom Carter, Gina Facca</i>	
Environmental Accounting and Environmental Disclosure: Legal and Other Perspectives	4929
<i>Scott Golla, John P. Fillo, Patrick H. Zaepfel, Esq., Raymond Schutzman, David C. Cannon Jr., Gregory D. Timmons Esq.</i>	
RCRA: The Past Quarter Century and the Next (addressing the past, present and future challenges of RCRA)	4930
<i>Dan Mueller, Scott Miller, Elizabeth Hurst, Cindy Smiley</i>	
Mercury Monitoring in the Power Generation Industry.....	4932
<i>J. Ron Jernigan, Scott Hedges, Robin Segall, Charles Dene, Krishnan Ramamurthy</i>	
The Challenges of Energy Supply in the 21st Century--Tactics	4937
<i>Miriam Lev-On, Jim Pfeiffer, Jim Powell, Kim Lundgren, Ashok Kumar, Tim Juliani, Kristy Monk, Dr. Farhood Rahnama, Allen Rider,</i>	
Toxic Tort: Managing the Liability and Managing the Perception	4939
<i>Richard D. Siegel, Diane W. Whitney, Russell W. Porter, Jr., Esq., Dr. Jay Gandy, Dr. Gary Krieger</i>	
Achievement of Cost-Effective Compliance Through Water Quality Trading: An Examination of the Pennsylvania Nutrient Trading Program.....	4940
<i>Joseph M. Dawley, John Hines, William Achor, Ann Smith, Brian J. Hill</i>	
Mercury and Power Generation, Technology and Control	4943
<i>Sharon Sjostrom, Mark Berry, Tom Burnett, Laurel Brown, Steven Wahlert, Connie Senior, Ramsay Chang, Andy O'Palko</i>	
Particulate Matter (PM) Research & Policy: Yesterday, Today and Tomorrow	4945
<i>William Wilson, K. Schnelle, K. Pence, Mike Meyer, Thomas A. Cahill, Jamie Schauer, Rudy Husar, Philip Hopke, Brooke Hemming, Joel Schwartz, Mort Lippmann</i>	
Setting BACT and LAER Limits	4947
<i>Susan Angyal, Sai Lee, Jennifer Flannery, Colm Campbell, Terry Soule, Luis Comas</i>	
MACT Developments - Implementation, Area Sources and Residual Risk.....	4949
<i>Paul Siebert, Mark McMillan, Laurie Miller, Ann Weeks, John Slade</i>	

Permitting and Enforcement Issues in the Petrochemical and Refining Industries.....	4950
<i>Ed Fiesinger, Jennifer Seinfeld, Heather Keller, John Slade, Robert Morris, Jim Myers, Bob VanVoorhees</i>	
Effect of the Changes in Neighboring Building Layout onto Natural Ventilation Scheme in Buildings.....	4951
<i>Mijeong Kim, Jihan Song, Heekwan Lee Ph.D, Shindo Kim, Ph.D</i>	
Environmental Litigation Update.....	4963
<i>Amy Edwards, Carol Holmes</i>	
Environmental Health and Safety Issues Associated with Nanomaterials.....	4964
<i>Joseph M. Dawley, William P. Gullledge, Elizabeth McMeekin, Kimberly McDonald, Dr. Mark Hoover</i>	
Charging Bulls or Boiled Frogs: How Will the Engineering Community Address the Issues of Sustainable Development?	4967
<i>William A. Wallace, Andy Mangan, Imran Sheikh, Dr. John M. Boyd</i>	
Implementation of Title V Stakeholder Recommendations	4968
<i>Bob Hodanbosi, Bernie Paul</i>	
Economic and Technical Viability of Various MSW, WTE Waste to Energy Thermal Treatment Processes.....	4969
<i>Jack D. Lauber</i>	
Issues and Challenges Facing Environmental Education and Outreach.....	4971
<i>Ashok Kumar, Dr. Page, Dr. Martin, Dr. Heller, Dr. Auberle, Dr. Kumar, Mr. Vijayan, Dr. Santanam, Dr. Arunachalam, Dr. Lu</i>	
Updates on Voluntary International ASTM Environmental Standards	4973
<i>Gwen Eklund, Anthony J. Buonicore, Amy L. Edwards, Bill Gullledge, Paul Sonnenfeld</i>	
Climate Change: Electric Power Industry Perspectives	4974
<i>C.V. Mathai, Skiles Boyd, Ray Butts, Martin Smith, Jerry Walker</i>	
Massachusetts v. EPA and Climate: Will the Regulatory Landscape Change?	4978
<i>Larry Demase, Brian Montag, Amy Royden Bloom</i>	
Sustaining Urban Air Quality through Management of Urban Forests	4979
<i>David J. Nowak, Charles L. Anderson, Michael F. Galvin, Mark E. Sendzik PhD,</i>	
Environmental Forensics	4984
<i>Dan Mueller, Paul Boehm, Ken Spitzke, Robert Pirkle, William Hyatt Jr.</i>	
Air Accountability - Measuring Air Quality Management Outcomes	4985
<i>James Vickery, William Pennell, Jeffrey Shire, Paul Lioy</i>	
Strategies for Demonstrating Attainment of the National Ambient Air Quality Standards for PM_{2.5}	4988
<i>Dr. Howard Ellis, Rich Damberg, Brian Timin, Michael Koerber, Jayme Graham, George Hidy</i>	
A Roundtable Discussion Exploring the Potential Environmental, Health, and Safety Implications of Nanotechnologies.....	4991
<i>Lynn L. Bergeson, Barbara Beck PhD, Benjamin R. Dwyer,</i>	
Issues Regarding NSR and Title V Permit Conditions	4994
<i>Gary McCutchen, David Gage, Harry Kłodowski, Scott Turner, Hal Robbins, John Bunyak, Juan Santiago</i>	
Opportunities for Managing Stationary Source Emissions in Developing Countries	4995
<i>David Calkins, Miriam Lev-On, Cornie Huizenga, Sergio Sanchez, Akbar Sameer, Dick Baldwin, Kevin Rosseel, Jane Metcalf, Alan Gertler, Ram Ramanan</i>	
Smart Brownfield Development.....	4996
<i>Deb Lange, Jerry Detorre, John Matviya, Jill Gaito, Maureen Ford, Chris Fulton, Bill Widdoes, Peg Farrell</i>	

Challenges in Modeling and Monitoring of Air Quality in Remote Locations: Northern (Arctic), Desert, Jungle and Oceans - Part 1.....	4998
<i>Steven Sakiyama, Piotr Staniaszek, Tony van der Vooren, Joe Scire, Stephen Ochs, Ralph Morris</i>	
Challenges in Modeling and Monitoring of Air Quality in Remote Locations: Northern (Arctic), Desert, Jungle and Oceans - Part 2.....	5000
<i>Steven Sakiyama, Piotr Staniaszek, Mike Lepage, Darryl Chartrand, Greg Unrau</i>	
Challenges in Modeling and Monitoring of Air Quality in Remote Locations: Northern (Arctic), Desert, Jungle and Oceans - Part 3.....	5002
<i>Steven Sakiyama, Stephen Ochs, Dale Leier, Darcy J. Anderson, John Faust, Scott Cismoski, Noushad Kunnummal, Daniel Beard</i>	
Environmental Health and Safety Issues of Nanomaterials	5004
<i>Nora Savage, Andrew D. Maynard, Karluss V. Thomas</i>	
Multiple Pollutant Strategies.....	5006
<i>G. Hidy, B. Hubbell, R. Scheffe, J. Jansen, Howard Feldman, Paul Lioy</i>	
PM_{2.5} Regulatory Development and Implementation Issues	5007
<i>N/A</i>	
Sustainability Past, Present and Future	5008
<i>C. Flint Webb, Dr. Joel Tarr, Dr. Bhaskar Kura, Dr. Joseph Rishel, Dr. Michael Cahall, Dr. Christina W. Michelmore</i>	
Show Me the Money: Getting Results From the Whole Organization Means It's Not Just About the Environment.....	5009
<i>D. Johnson, M. Coleman, S. Austin, C. Spire</i>	
The Challenges of Energy in the 21st Century--Strategies	5010
<i>Miriam Lev-On, Jim Pfeiffer, Jim Powell, Kim Lundgren, Ashok Kumar, Tim Juliani, Kristy Monk, Dr. Farhood Rahnama, Allen Rider,</i>	
Downwind Study of Ultrafine Particles Emitted During Take Off by In-Use Commercial Aircraft.....	5012
<i>Rong-Chun Yu, Elinor W. Fanning, John R. Froines</i>	
The Nuclear Renaissance: When, Where and Why	5017
<i>Bill Flanagan, Eileen Supko, John P. Englert, Llewellyn King</i>	

Author Index