

GABRIEL MILLER, Ph.D.
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NARRATIVE RESUME

Summary

Dr. Miller has been involved in analytical and experimental programs in environmental and energy science for over 30 years. As a professor and consultant, he has been involved in industrial and utility scale cogeneration studies, municipal solid waste analyses, cement kiln studies, and air monitoring studies, ranging from utilization of plume dispersion models to determine near and far field environmental impacts, to stack gas cleanup technology studies, including analysis of standard and innovative techniques for control of fly ash and sulfur compounds from power plants.

Dr. Miller has been in the forefront of research into pressurized fluidized-bed coal combustion and innovative hydropower technology. Dr. Miller has been active in the study of technologies for gas and oil fired cogeneration, cement kiln analyses, hospital waste incineration, municipal solid waste disposal, and gas- and oil-fired power plant analyses.

Experience

Dr. Miller is a professor of Chemistry at New York University with more than 30 years of experience in combustion and fluid dynamics. He is the author of more than 60 refereed publications and his work has encompassed studies of a variety of combustion systems, including studies of human exposure to toxic emissions from municipal waste combustion facilities, and analyses of power plant systems and industrial plants (including cement kilns) for compliance with the Clean Air Act and its Amendments.

SOLID WASTE, CEMENT PLANTS AND POWER PLANT ANALYSES

Dr. Miller has participated in numerous projects leading to environmental impact statements for hazardous and non-hazardous waste combustors, and has considerable expertise in preparing best available control technology (BACT) and Lowest Achievable Emission Reduction (LAER) sections. Some examples of the work follow here.

Dr. Miller recently headed studies related to air pollution control for cement kilns. He has analyzed technologies for NO_x reduction in such units and authored or co-authored a number of reports related to NO_x reduction at the proposed St. Lawrence Cement plant in Greenburg, NY. The analyses examined both Selective Non-catalytic Reduction (SNCR) and Selective Catalytic Reduction (SCR) for this application. A report describing how the SCR technology used at the Solnhofer plant in Germany may be available as LAER for NO_x control at cement plants in the U.S. was published in 2003 and updated in 2004.

Dr. Miller was project manager for bond refinancing, and oversight of the retrofit of the air pollution control equipment, for the RESCO Charles Point, New York Municipal Solid Waste Combustion Facility. Dr. Miller reviewed and commented on all designs and construction documents developed by the contractor.

Dr. Miller was program manager of a 3.2 MW gas engine cogeneration installation at Mutual Redevelopment Houses in New York City. In this regard, he produced a performance specification for seven firms who, based on the performance specification, developed design-build proposals. This concept saved the client significant dollars, and led to the choice of a qualified firm who developed an innovative design which also saved the client from a significant increased capital expense. The system is now in operation, leading to significant annual savings in electrical and thermal costs.

Dr. Miller was project manager for a bond feasibility study on the burning of general and infectious hospital wastes in a regional incinerator by a consortium of Baltimore regional hospitals, Medical Waste Associates Limited Partnership of Baltimore, Maryland. The study included engineering design requirements, site analysis, preparation of a construction plan, an operation and maintenance study, permitting analysis, and project economics. In addition, medical waste disposal practices were researched in the service area of the facility.

Dr. Miller was project manager for power plant analyses and design for Riverbay Corporation, which operates Co-op City in the Bronx, New York. He led a group which has specified a low NO_x RACT Law in New York. The project evolved into a working relationship with Con Edison, who installed the low NO_x burners and Continuous Emissions Monitoring System at the plant.

Education

Ph.D. - Aeronautics and Astronautics, New York University, 1968
M.S. - Aeronautics and Astronautics, New York University, 1965
B.S. - Aeronautics and Astronautics, New York University, 1963

Affiliations

American Institute of Aeronautics and Astronautics
American Meteorological Society

Publications

Available on request

