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ABSTRACT

This report contains the papers presented at the 24th DOE/NRC Nuclear Air Cleaning and Treatment Conference and the associated discussions. Major topics are: (1) nuclear air cleaning issues, (2) waste management, (3) instrumentation and measurement, (4) testing air and gas cleaning systems, (5) progress and challenges in cleaning up Hanford, (6) international nuclear programs, (7) standardized test methods, (8) HVAC, (9) decommissioning, (10) computer modeling applications, (11) adsorption, (12) iodine treatment, (13) filters, and (14) codes and standards for filters and adsorbers.

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FOREWORD

The 24th DOE/NRC Nuclear Air Cleaning and Treatment Conference was held July 14 - 18, 1996 in Portland, Oregon. The Conference was sponsored by the International Society of Nuclear Air Treatment Technologies, the Harvard Air Cleaning Laboratory, and by the US Department of Energy and US Nuclear Regulatory Commission. International interest and participation remained high, with 30% of the papers being presented by scientists and engineers from nine foreign countries. A panel session was held to discuss international programs and research in nuclear air cleaning technology. Other major topics covered were: standards for manufacturing, operation and testing of air cleaning elements and systems; decontamination and decommissioning processes; waste management; instrumentation and measurement systems; gas adsorption; chemical operations; reactor accident scenarios; filters and filtration. Panel sessions were held to discuss the testing of air and gas cleaning systems and codes and standards for the construction and installation of filters and absorbers.

A highlight of the conference was a detailed review of DOE's operations at the Hanford Reservation, Richland, WA, where a ten-year multi-billion dollar decontamination and decommissioning project is underway. Some conference attendees toured the Hanford site after the Conference. The special emphasis on air cleaning for process gas treatment in the waste management area, featured at the 23rd Conference in July 1994, continued as a common theme throughout this conference. Air cleaning requirements for reactor decontamination and decommissioning has also come to the forefront.

I would like to express thanks to the representatives of the Conference's sponsors and financial supporters: Dr. Richard Lee, US Nuclear Regulatory Commission, Mr. James Slawski, US Department of Energy, and Mr. Richard Porco, Chairman of the International Society of Nuclear Air Treatment Technologies. Each of these individuals provided unstinting support and assistance during the planning and conduct of the Conference.

The Chairman would also like to extend his sincere thanks to all members of the Program Committee who worked diligently over the past couple of years to put together the program of the 24th Conference and who helped conduct it in an orderly manner. He is very grateful to each of them for their devotion to the Air Cleaning Conferences and for their willing assistance to the Chairman.

The thanks of all the attendees, as well as the Chairman, are due Mary Kovach for her kind management of each morning's hospitality gathering of family members.

The Chairman extends his special thanks to Suzanne Doyle Shaffner for her able handling of all the business affairs of the Conference and for her careful and timely assembly of the camera-ready master copy of the Proceedings.

Melvin W. First
28 February, 1997