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February 10-13, 1981
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This informal report presents preliminary results of ongoing work or work that is more limited in scope and depth than that described in formal reports issued by the Energy and Environmental Systems Division.

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FOREWORD

In response to the growing need for information on the use of prepared fuels for waste-to-energy projects, the U.S. Department of Energy (DOE) and the U.S. Environmental Protection Agency (EPA) sponsored a conference in Nashville, Tennessee, February 10-13, 1981. These proceedings document presentations at that conference.

Recognized authorities in various areas of prepared fuels technology, as well as experts in the financing and marketing aspects of prepared fuels, discussed the front-end technology of preparing solid waste for resource recovery and the marketing requirements of the various energy applications for prepared fuels. One day of the three-day conference was devoted to presentations by manufacturers of prepared fuel systems who described their systems. One half-day session considered timely issues on waste flow control.

The International Conference on Prepared Fuels and Resource Recovery Technology was coordinated by Caroline Brooks, Technology Transfer, Energy from Municipal Waste Program, Energy and Environmental Systems Division, Argonne National Laboratory. These proceedings were edited by Diane Wallin.

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SESSION I: CONFERENCE OVERVIEW

Moderator: Donald Walter (DOE)

PREPARED FUEL SYSTEMS: SELECTING AN OPTION

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ABSTRACT

The question of selecting a resource recovery technology option is discussed. Approaches are discussed and experiences are given to illustrate why decisions were made to pursue prepared fuel systems. It is concluded that selecting an option involves full consideration of not only the technology, but company qualifications, costs, and the nature of the business deal.

BACKGROUND OF THE TECHNOLOGY

In the early 1970's a number of serious efforts were launched in the United States to develop a new technology for recovering both materials and energy from municipal solid waste. This technology was based on the many years of experience in separating materials in the minerals and mining industry, combined with unit processes from other fields, such as the paper and agricultural industries. There was immense interest in resource recovery which was, at that time, the recovery from materials fraction in solid waste of ferrous metals, glass, aluminum and other non-ferrous metals. The refuse-derived fuel processed was viewed almost as a by-product; it was to be burned as a supplementary fuel in existing coal-fired units to help produce steam. Very soon this view changed. Refuse-derived fuel was recognized to be a valuable fuel, and process designs began to concentrate on this product even more than on the materials fraction. Dedicated boilers quickly became a part of designs to provide a complete system which would produce steam or electric power. We now refer to this technology as RDF (Refuse-Derived Fuel), front end separation, or prepared fuels systems.

Most of us are familiar with the pioneering work at the U.S. Bureau of Mines and the EPA-sponsored testing and experimentation at St. Louis, Missouri. We watched those in Madison, Wisconsin taking a relatively simple approach to designing the recovery process, while firms experimented with greater complexity -- and hoped for greater utility -- in Brockton, Massachusetts and Rochester, New York, among other locations. Major U.S. firms were racing to establish a foothold in the marketplace to capture a slice of what promised to be a multi-billion dollar market. No one can deny that at the time advertising outdistanced performance by a sizable margin.