

ESA CORPORATE AWARD

SEMASS Partnership

The theme of the 1996 Corporate Award is Resource Recycling. This category includes organizations concerned with the recovery, reclamation, or recycling of natural resources such as wood and paper products, glass, metals, waste water, and related residuals. Most of North America is facing a solid waste crisis. Landfills are near capacity, and their potential contamination of air, soil, and ground water makes it most difficult to enlarge present landfills or find new sites. Yet, the volume of solid wastes increases yearly.

It is my pleasure to announce that the 1996 ESA Corporate Award is being given to SEMASS Partnership of Rochester, Massachusetts. The Cor-

porate Award Committee agrees that SEMASS Partnership provides an excellent example of how major large-scale environmental issues can be addressed in environmentally sound and profitable ways.

SEMASS, as a corporation, was designed to reduce the solid waste stream to landfills. This enterprise shows a record of remarkable reduction of waste flow combined with environmental concern, done profitably and on a large regional scale. This combination provides a demonstration that solid waste disposal can be accomplished in an environmentally sound fashion, on large geographical scales and in the real world of business economics.

Allow me to give a few examples. First, in terms of reduction of waste flow, only 11% of the original solid waste remains for disposal at the end

of processing at SEMASS. This remarkable reduction in volume of solid waste is achieved by technological advances that significantly add to the efficiency of combustion, novel methods for recovery of metals, and converting much of the remaining ash to aggregate, which is usable in construction.

Combustion of the solid waste consumes about 77% of its solid waste, and the heat produced is converted to electrical energy. Some of the energy is used in operating SEMASS itself, and the rest (enough to service 75,000 homes) is sold to a local utility.

The bottom ash is processed further. Unlike other resource recovery plants, SEMASS includes technology to recover nonferrous as well as ferrous metals, both of which are sold. In addition, most of the remaining ash

is converted into a gravel substitute that can be used for construction purposes. About 13% of the original trash is recovered as metals or aggregate, and provides marketable products.

The second admirable point is that the work of processing waste is conducted in ways that minimize environmental impact. Incinerators, in general, prompt justified public alarm at the potential for air pollution. The design of the waste processing at SEMASS results in emissions that regularly fall 10 times below prescribed limits for contaminants. This low emission rate is made possible by technical features developed expressly for industrial processes, is minimized by use of air-cooled condensers, and by reuse of water throughout the plant. There is zero discharge of waste water. Throughout, efforts are made to diminish environmental impacts: for instance, air over the tipping floor where the trash is dumped is under negative pressure. The resulting air flow removes particulates and odors, and the air is ducted directly into the boilers where the particles are combusted.

The third point is that, unlike many meritorious small-scale environmental businesses, SEMASS operates at a regional scale. This company demonstrates that environmental businesses can evolve from the local level to massive scales while remaining competitive in the market place. SEMASS receives about one million tons of waste per year; 400,000 tons of solid waste per year come from 45 communities with long-term contracts. These communities are home to about 570,000 people. Nothing provides a sense of the huge scale of the SEMASS operation as much as the \$1,000 in coins that are recovered daily from the waste stream. The technology allows the coins to pass through the combustion process in recognizable form, and the coins are taken to the U.S. Mint for reimbursement.

In the past, some have voiced concern about whether such operations



The SEEMASS Partnership facility in Rochester, Massachusetts.

hinder the development of personal recycling. The committee feels that SEMASS is not a threat to recycling in the member communities; in fact, SEMASS contracts encourage recycling by exempting recycled tonnage from payments to SEMASS. In addition, SEMASS representatives speak frequently at schools and civic organizations about the importance of recycling as a better use of materials. Their message is that only those wastes that cannot be reused, composted, or recycled should be sent to SEMASS. Even though SEMASS is a for-profit operation, the wording of their contracts and the activity of their representatives suggest that sensitivity to wise reuse of resources is a high priority for this company.

Addressing massive scales involves solving problems that have not often concerned environmentally oriented businesses. For SEMASS to work, legal contracts have had to be developed with communities that have a bewilderingly array of different political organizations, goals, and economic interests. Ways to transport trash have to be developed, which has

meant obtaining permits for and building transfer stations, and setting up railroad and truck routes. The regional scale forces a gamut of interdisciplinary activities that far out-reaches what has been the usual purview of most environmental firms.

In making the award, the Committee agreed that more examples are needed of corporate efforts that are profitable, that work economically as well as ecologically, that appropriately address the geographical scale of a problem, and that illustrate the interleaving of ecological issues with politics, government, transport systems, and other societal issues. We are pleased that SEMASS does all those things, and is eminently suited for the ESA Corporate Award.

Corporate Award Subcommittee

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