Discussion by

William E. Franklin
Franklin Associates, Ltd.
Prairie Village, Kansas

This excellent paper describes a model of how resource recovery implementation should be done, and done right. The resource recovery community will be watching with interest as this project proceeds with its bond sale, construction, and operation.

There are several key factors at work in this implementation:

1. There was political support for the project, due to staff efforts.
2. There was strong staff management.
3. The area had previous experience with an unsuccessful project and was determined to procure a proven technology (mass burning); considerable operational experience has accumulated since the previous pyrolysis plant was built.
4. A site was available and mandated, thus avoiding a stumbling block which has doomed or delayed other projects.
5. A willing market was available — lack of a market ends many a project before it starts.
6. A well-balanced team of consultants representing all required skills was utilized.

It would be of interest to hear more discussion of how the project risks were allocated between the partnership and the subdivision users. The original plan (Table 1) for a guaranteed gross tipping fee appears to put a great deal of risk on the local governments. The agreement finally adopted appears to have alleviated this risk; more discussion would be helpful.

The best laid and executed plans still meet obstacles, and the delay experienced in issuing bonds due to the current bond situation is certainly not the fault of the project planners. It does illustrate the kind of problem that can arise. Those of us involved in resource recovery will be watching this project's progress with great interest.

AUTHORS' REPLY

The authors would like to take this opportunity to thank William Franklin and Marjorie Franklin, on behalf of the whole Southwest Project Team, for their review of this paper. The team is proud of the accomplishments to date and hopes to bring this project to a timely conclusion.

The discussion indicates that it would be interesting to hear more about the final allocation of risks in the project. It is correctly brought out in the discussion that the final project structure alleviates most of the risk of the local governments. The subject of risk sharing in the Southwest Project was a topic of a paper presented by Robert F. Schoenhofer, the Executive Director of the Northeast Maryland Waste Disposal Authority, at the Resource Recovery Financing Conference held in March, 1982, in Washington, D.C., sponsored by the United States Conference of Mayors. That paper, entitled “Project Structure and Financial
Risk Sharing" is a fairly extensive analysis of the risk sharing structure of the Southwest Project, and highlights of that structure appear below in response to the discussion.

Three major types of risks were identified in conjunction with the implementation of the Southwest Project: 1. technological failure during construction or operation; 2. uncontrollable or "force majeure" events (including natural disasters, labor disputes, the effects of processing "unacceptable waste", and in law); and 3. changing forecasted trends. The assignment of risk in any project structure is closely inter-related with the flow of funds among the participants. Figure 1 illustrates the basic flow of funds for the Southwest Facility. The figure shows the various income and expense streams which result from the contract structure. The partnership is fully responsible for meeting all payment obligations shown on the right side of the diagram from the funds available from the sources shown on the left. When funds are insufficient to meet these obligations, the partners who make up the Baltimore Refuse Energy System Company (BRESCO) are obligated to inject funds into the project to cover these obligations. If the risks allocated to the partnership result in the need for additional funds, only two sources are available: 1. increases in the Subdivision tipping fee payments, or 2. payments made by the partners under the Additional Contributions Agreement. The partners are restricted in their ability to raise the Subdivision tipping fee.

The concept of a "Fixed" Tipping Fee thus is a key element in the allocation of risks and the system of guarantees of Facility performance. A brief description of the "Fixed" Tipping Fee concept follows. The Subdivisions participating in the Facility will supply approximately 60 percent of the waste which can be processed by the Facility under a "put or pay" contract. The Tipping Fee for this waste has been determined on the basis of assumptions of Facility economics which take into account all revenues which are anticipated to be generated from the processing of each ton of waste. It is anticipated that the Facility will be operated at full capacity, and that the nonguaranteed 40...
percent of plant capacity will provide the same income, on a ton for ton basis, as that guaranteed by the Subdivisions. The Tipping Fee to the Subdivisions will not be affected if BRESCO is unable to attract additional waste. The "Fixed" Base Tipping Fee is subject to an inflation adjustment each year. The result of this structure is that BRESCO cannot adjust the Subdivision's Tipping Fee to make up for shortfalls in revenues which result from its failure to perform in accordance with the contracts. In order to generate sufficient net revenues to support the Facility and to make the expected return on its investment, BRESCO must:

1. successfully process the Subdivision Waste;
2. attract and process commercial waste;
3. generate the projected quantities of electricity and reclaimed materials;
4. hold residue generation to projected levels; and
5. maintain operating costs at or below projected levels.

For the three previously identified risk types, these arrangements translate into the following risk-sharing provisions:

1. Technological Failure During Construction or Operation — Any costs arising as a result of technical failure during construction or operation (other than Uncontrollable Events) must be covered by the injection of funds by the partners under the Additional Contributions Agreement.

2. Uncontrollable Events — Any costs arising as a result of the occurrence of Uncontrollable Events will be shared between the Participating Subdivisions and BRESCO. This sharing is proportionate to the tonnage guarantee, i.e., the Subdivisions are responsible for approximately 60 percent of any costs, since the Subdivisions utilize approximately 60 percent of the plant's capacity.

3. Changing Forecasted Trends — Any cost arising as a result of changes in forecasted trends will be borne by BRESCO.

The above description is extremely simplified, and does not address how the risk allocation structure could potentially impact any "excess revenues" which are to be shared between the Subdivisions, BRESCO itself, and various levels of government through tax payments. There is also insurance and certain limits of liability associated with particular risks and these are not discussed. Of course, the risk apportionment scheme would become totally invalid if risks of such magnitude occur that all payment obligations of BRESCO and Wheelabrator-Frye Inc. (as managing partner) will be exhausted. In such an instance, BRESCO could default and total responsibility for the Facility would revert to the Authority.