IMPLEMENTING RESOURCE RECOVERY IN THE CITY OF BERKELEY, CALIFORNIA

AMANDA K. TOPPER, MICHAEL D. BROWN, and THOMAS D. VENCE
Brown, Vence & Associates
San Francisco, California

MICHAEL J. BAUMANN
City of Berkeley, California

ABSTRACT

This paper presents, as a case study, how the City of Berkeley is procuring a Solid Waste Management Center (SWMC) incorporating recycling and source separation, transfer, and resource recovery. Specifically, this paper focuses on the separated but parallel procurements of a transfer station and a resource recovery facility. These are the final two components of the City's Solid Waste Management Center, designed as a comprehensive approach to both waste reduction and resource recovery. This paper presents the early stages of procurement activities.

INTRODUCTION

The City of Berkeley, with a population of 125,000, is one of the few municipalities in the San Francisco Bay Area where refuse is collected by municipal crews and disposed of on land owned by the City. The disposal site is located at the Berkeley Marina and is operated by a private franchise. It is estimated that the present landfill will reach capacity in mid-1983.

Anticipating the necessity for an alternative and more environmentally sound solid waste management system, the City Council established a Solid Waste Management Commission in 1972. The Commission was mandated to develop a short-term plan for reducing the quantity of solid waste generated and a long-term ecologically sound plan for managing the City's refuse in the future.

In 1973, the City Council decided to purchase a site for a solid waste transfer station. Shortly thereafter, two parcels of land were purchased relatively near to the existing landfill.

Throughout the 1970's the City continued to study ways to reduce the total quantity of waste generated and to maximize recovery of materials/energy from solid waste. A series of studies was conducted, each becoming an important element to the City's decision to pursue a comprehensive Solid Waste Management Center. The studies were:

1. 1975: A City-commissioned report to assemble data on refuse generation and disposal and to study the relationship of Berkeley's resource recovery alternatives to suggested regional plans. This report recommended that the transfer station incorporate resource recovery processes to ensure maximum reutilization of resources.

2. 1976: A source separation and waste reduction plan prepared by the Solid Waste Management Commission. The Commission recommended implementation of curbside collection of source-separated materials and incorporation of recycling center and storage yard at the transfer station.

3. June, 1978: Garretson-Elmendorf-Zinov-Reiben (GEZR), consultants to the City, prepared "Solid Waste Management Center - Phase One," preliminary engineering of a transfer station and recycling center at the City's proposed site.

4. September, 1978: GEZR prepared "Solid Waste Management Center - Phase Two," funded by the California State Solid Waste Management
Board. This study examined incorporation of a resource recovery facility at the SWMC, based on local industry’s interest in purchasing energy produced from refuse. Appropriate scale resource recovery systems for the anticipated tonnage available in the City of Berkeley were identified and recommended.

5. November, 1980: GEZR and its subsidiary, Brown, Vence & Associates (BVA) prepared “Conceptual Design of Transfer Station/Materials & Energy Recovery Facility,” jointly funded by the City of Berkeley and the U.S. Environmental Protection Agency. This report, in addition to a conceptual design, identified materials and energy markets and potential contractual considerations, examined means of financing SWMC development, analyzed risk allocation, identified permit and regulatory requirements, and described an implementation plan.

The City Council voted to proceed with SWMC development and in September of 1980 was awarded a supplemental EPA grant to assist in funding Phase III development work, including solicitation of private industry proposals to provide necessary services. The City elected to procure the transfer station and resource recovery facility in separate Request for Qualifications/Request for Proposals (RFQ/RFP) processes.

The City has constructed a recycling center and storage yard on the SWMC site for a City-wide source separation and collection program. The recycling center is open to the public for deposit of materials including a buy-back program and some limited information on recycling. The buy-back program will purchase the following materials: aluminum cans, scrap aluminum, contaminated aluminum, newsprint, glass, tin cans, wine bottles, corrugated paper and perhaps waste oil and office paper. The recycling center is operated by nonprofit groups on a lease basis. Figure 1 illustrates the SWMC site and allocations of space for the three SWMC functions.

The City is currently in the process of procuring the transfer station and resource recovery facility through staggered, parallel processes. With procurement activities beginning in January 1981 with the section of the consultant subcontractor team, contracts are proposed to be awarded in December, 1981 for the transfer station and September, 1982 for the resource recovery facility. Figure 2 illustrates the schedule of Phase III tasks.

THE PROCUREMENT PROCEDURE

The City selected Brown, Vence & Associates, San Francisco, California, as its prime consultant for the procurement phase. Led by BVA, a team...
I Prequalify TS*
2 Prequalify RRF**
3 Evaluate & Request Clarifications TS RFP
4 Evaluate & Request Clarifications RRF
5 Negotiations/Best & Final Offers TS
6 Negotiations/Best & Final Offers RRF
7 Re-evaluate, Rank & Select Contractor TS
8 Re-evaluate, Rank & Select Contractor RRF

* Transfer Station
** Resource Recovery Facility

FIG. 2 PHASE III PROCUREMENT ACTIVITIES/CITY OF BERKELEY

FIG. 3 PROCUREMENT PROCEDURES
of legal, financial, engineering and negotiations consultants was developed to fully advise the City, prepare procurement documents and assist the City through the critical contractor selection and negotiations stages.

Subsequent to a legal review of the City Charter's contracting procedures, it was determined that an RFP/negotiated contract procedure could be employed in procurement of the transfer station and resource recovery facility. The specific procurement process described below parallels the RFP procedure used by the Federal government, supported by years of practice and a significant history of administrative agency and court case decisions. Figure 3 illustrates the procurement procedure.

**STAGE 1: REQUEST FOR QUALIFICATIONS (RFQ)**

An RFQ document is issued to prospective proposers and a presolicitation conference is held to answer questions, including those submitted in writing. A written report of all questions and the City's responses is sent to each RFQ recipient. Statements of Qualifications (SOQs) are received, evaluated and requests for clarification of data or additional data are sent to each respondent, who is then scheduled for a one-hour interview. The interview consists of a 30 min presentation and a 30 min question period. Respondents may submit supplemental information at this point. Final evaluation of qualifications is made and respondents notified of their status. Prequalification of proposers is an optional stage of the procurement process.

**STAGE 2: ISSUE REQUEST FOR PROPOSALS (RFP)**

Qualified respondents are sent copies for the RFP, which includes a project contract. A pre-proposal conference is then held to address questions, including those submitted in writing, regarding the proposal, its contents and requirements. A written report of all questions and the City's responses is sent to all RFP recipients. Proposals are then submitted and screened; proposers may then be requested to clarify specific points of their submittals. A signed contract, including any proposed modifications, is a required element of the proposal. Such clarification is limited to minor omissions or errors, i.e., those not substantially changing the content of the proposal or requiring significant time to modify.

**STAGE 3: EVALUATION**

Proposals are screened for basic competence and completeness. Those not meeting minimum technical requirements are notified that their proposals were nonresponsive and eliminated from further competition. Proposals meeting minimum technical requirements are then evaluated according to predetermined evaluation weights indicated. After the technical evaluation is completed, proposals are scored and ranked, taking into consideration non-technical factors, especially price. Competitiveness in price is considered a basic criteria of the technical evaluation. All proposals meeting the minimum technical criteria, including price, are considered competitive. If so specified in the RFP, a selection can be made and a contract awarded at this time with or without negotiations; this was a condition of the Berkeley procurement.

**STAGE 4: NEGOTIATION**

If a selection has not been made at the conclusion of Stage 3 and negotiations are desired, proposers are notified by letter of deficiencies or weakness in their proposals and requested to attend an interview with the evaluation team. During these negotiations, deficiencies in proposals are clarified and potential areas of improvement highlighted. Proposed modifications to the contract are discussed at this time (a signed contract, including any proposed modifications, is a required element of the proposal). While deficiencies or weaknesses in each proposal are discussed confidentially with the respective proposer, all proposed contract modifications must be discussed with all proposers to ensure a fair process. When the City is satisfied that sufficient competition has been stimulated, negotiations are concluded and proposers are requested to submit "best and final" offers.

**STAGE 5: FINAL SELECTION**

A proposer submits a "best and final" offer, including a signed contract, which is then evalu-
ted according to the original Stage 2 evaluation criteria. It can be expected that, due to the negotiation procedure, the “best and final” offers will be of better quality, price and highly competitive. Should this not be the case, the City has reserved the right in the RFP to repeat the negotiation or cancel the procurement. If an acceptable offer is received, the contractor is selected and contract awarded.

In the City of Berkeley, the City Council is empowered to award contracts, so that Stage 5 of the procurement process is slightly modified. The evaluation team will recommend a contractor and forward the contract to the City Council for review and approval. The City Council may award the contract or request further negotiations and submittal of a subsequent “best and final” offer or cancel the procurement.

The City’s evaluation team is composed of representatives of the following organizations:
1. Department of Public Works, City of Berkeley
2. Solid Waste Management Commission, City of Berkeley
3. Energy Commission, City of Berkeley
4. Consultants to the City
5. Other government agencies

As a required part of the evaluation process, members of the evaluation team will make a site visit to an operating facility (transfer station or resource recovery facility) in which the proposer has had substantial involvement and which best represents the proposed technology. This site visit will be at the proposer’s expense and will be conducted during Stage 4 - Negotiations subsequent to notification of competitive status and prior to negotiation sessions.

**RFQ/RFP DOCUMENT PREPARATION AND ISSUANCE**

The transfer station and resource recovery facility RFQ and RFP documents were prepared by the City and its consultant team in a parallel process, as illustrated in Fig. 2. The preparation process began with a position paper from the City which served as an extremely important tool in clarifying the desired approach to many items, defining the City’s preferences and highlighting legal questions requiring further review and resolution.

In order to widely publicize the availability of project RFQs, the City sent a notice of availability to many prospective respondents. In addition to inquiries the City had received, a list of potentially interested firms was compiled by the City and its consultants. Each firm on the City’s list received a one page notice of RFQ availability and notices were published in appropriate trade journals. In order to elicit only serious RFQ requests, the City charged a nominal fee of $25 for each RFQ document. This procedure was followed for both the transfer station and resource recovery facility.

The RFQ documents for both the transfer station and the resource recovery facility were designed to allow only a highly qualified group of respondents to proceed to the RFP competition. The qualifications criteria were, therefore, stringent and the evaluation team took a very discerning attitude in its review of qualifications statements.

**TRANSFER STATION PROCUREMENT**

In order to always retain direct control of the waste disposal function, i.e., the ability to effect waste disposal through transfer, the City elected to pursue a turnkey acquisition. This approach was slightly modified to include a one-year operation and maintenance contract, extendable for a period of up to 5 years. In retaining ownership of the site, facility and all equipment, the City was prepared to finance all aspects of transfer station development through internally generated funds. Funds for the Berkeley project were raised through a surcharge on City collection services; such monies have been set aside for improvements and expansions to the solid waste operations. The transfer station is required to have a design capacity of 560 tons/day.

The City of Berkeley issued copies of the RFQ to 38 potential respondents. Respondents were required to demonstrate experience with transfer station design, construction and operation, and corporate financial capability. Specifically, respondents were asked to supply the following information:

1. Description of past applicable experience for the firm. If there is a reliance on the expertise of other firms for any aspect of the project (such as an architect/engineer for design) include their qualifications.

2. Description of similar operations. Give name, title, telephone number of local official cognizant of each operation.
3. Resume(s) of individuals who will be directly involved in facility development and operation.
4. 10K's for the past five fiscal years and all 10Q's since the last 10K. Any proposer not required to file 10Q's or 10K's with SEC should submit similar type of information and disclosure.*
5. Descriptions of firm's overall business and history.
6. Statement that firm will comply with City's Affirmative Action Requirement and encourage minority business enterprise participation.

Other descriptive materials were allowed as a part of the submittal, however, no detailed descriptions of the proposed facility or system or cost information were requested.

The City received nine Statements of Qualifications. The SOQs were reviewed by the evaluation team and requests for clarification of information were sent to respondents. SOQs were evaluated on the basis of the following criteria:

1. Experience in Transfer Station Design, Construction and Operation — Respondents must demonstrate experience in the design, construction and operation of a refuse transfer station processing a minimum of 100 tons of municipal solid waste per day.
2. History of Firm Responsible for the Operation — Proposed operating firm must have been in business for at least the past five years consecutively and show a profit in at least three of those five years.
3. Size of Firm Responsible for Operation — Proposed firm responsible for operation must have at least $3,000,000 gross revenues in the last year.
4. Affirmative Action — Firm must agree to comply with the City's Affirmative Action Requirements and to encourage minority business enterprise (MBE) participation in project development and operation.

The City elected to qualify any respondent meeting the minimum criteria rather than select only the top submittals. This was aimed at encouraging broad competition. Of the nine SOQs submitted, five respondents were considered qualified, and one of these qualified respondents withdrew from further competition. Four respondents were issued the transfer station RFP in July of 1981.

*These are complete financial disclosure forms required by the Federal Securities Exchange Commission; a 10Q must be filed annually, while a 10K must be filed quarterly.

A preproposal conference was held for all RFP recipients. City staff and the consulting team answered both written and verbal questions from the prospective proposers. Subsequent to the meeting, the City issued a thirty-three point clarification of RFP points and extended the proposal submission deadline; proposers were allowed eight weeks to prepare their responses.

**RESOURCE RECOVERY PROCUREMENT**

The City, in pursuing a policy of waste reduction and materials recovery, desired to reduce significantly the amount of refuse requiring landfill and also to recover marketable products, materials and/or energy, from the waste stream. The City recognized, however, its lack of experience in operation of waste processing facilities and decided to pursue a full service acquisition as the most cost-effective and efficient means of achieving the City's goals. The City also determined that since the transfer station would act as a waste receiving facility for the resource recovery facility, the selected resource recovery facility contractor should assume operation of the transfer station including any required transfer and disposal activities.

The City plans to contract for the financing, design, construction, operation and maintenance services of the resource recovery facility for twenty years. The contract will include twenty-year operation and maintenance services for the transfer station.

The resource recovery facility must be capable of processing a minimum of 120 tons/day, the approximate tonnage collected by the City sanitation fleet. The facility is required to reduce the 120 tons/day by a minimum of 30 percent by weight. Such reduction could be achieved through any available means such as recycling, composting, combustion, wet pulping, etc. Additional processing capacity is at the developer's option and must be economically advantageous to the City, i.e., less expensive than landfilling any refuse in excess of 120 tons/day.

The City received forty-five requests for the resource recovery facility RFQ. Respondents were required to submit the following information:
GENERAL INFORMATION

1. Provide the name, address and telephone number of firm, and key contact person.

2. Describe the type of organization (i.e., corporation, partnership, etc.), its history, and the ownership and organizational background of the firm.
   A. List all officers and all stockholders owning 10 percent of the shares or greater.
   B. If the firm responding is a partially or fully-owned subsidiary of another firm, an appropriate statement of the levels of corporate management that will have to approve any subsequent contracts resulting from this project must be appended.
   C. Provide comparable data for partnerships.

3. Describe in what manner the firm has clearly demonstrated a corporate commitment to resource recovery. The response should indicate the amount and percentage of total company investment of capital and staff resources committed to the development of resource recovery projects. Provide the amount and percentage of revenues attributable to work in the resource recovery area for each of the past three years.

EXPECTED APPROACH

1. Provide a statement of the proposed technical approach. The basic processes to be used should be briefly described.

2. State any preference and limitations in regard to project financing method.

3. Discuss the preferred project approach and limitations as it relates to guarantees for the construction, performance and operation of the proposed system and/or major system components.

4. Describe the firm's intention regarding the use of subcontractors or a joint venture for the major portions of design, construction and/or operation to the proposed system. The building trades subcontractors (e.g., plumbing, electrical) need not be enumerated. If other subcontractors are involved, give the names, qualifications and degree of involvement of the intended subcontractors.

5. Describe the firm's approach, including some indication of timing, in responding to the following regulatory requirements:
   A. Compliance with the emission reduction requirements of Section 173 of the Clean Air Act applicable to nonattainment areas.
   B. Obtaining federal, state and local environmental and construction permits.
   C. Compliance with the identification, notification and disposal requirements of the Solid Waste Disposal Act, as amended.
   D. Coordination with regional air quality, water quality and solid waste boards.

TECHNICAL INFORMATION

1. Describe the technical experience of the firm as it relates to the design and construction of resource recovery facilities. List all resource recovery facilities designed and built and provide size, capital cost, location, type of financing and name and telephone number of references. Give names and telephone numbers of references for all listed projects. List and describe all resource recovery facilities previously or currently operated by the firm and the period of the operating agreement.

2. Discuss the overall management and technical expertise and experience of the firm as reflected in the success of comparably complex projects undertaken in the past five years for both resource recovery and nonresource recovery projects.

3. List the key in-house management and technical personnel that would be assigned to this project should the firm be selected and their technical expertise and experience with the firm.

FINANCIAL INFORMATION

Provide financial information for the principal entity (or entities, if more than one, including joint venture participant and major subcontractors) representing the firm, irrespective of the organizational alignment that might be specifically proposed for this project. The financial information requested is:

1. U.S. Securities and Exchange Commission forms 10K for the past five fiscal years and all 10Qs since the last 10K. Any proposer not required to file 10Qs or 10Ks with Security and Exchange Commission should submit the following information:
A. General development of the business of the proposer, its subsidiaries and any predecessors during the past 5 years. Information on the bankruptcy, nature and results of any material declassification, merger or acquisition, the acquisition or debt position of any material amount of assets other than in the ordinary course of business and any material changes in the mode of conducting the business.

B. List the names of all directors and all persons nominated who are chosen to become directors, and a professional affiliation. List names of all executive officers of the proposer, and positions held, and term of office. For all listed persons provide a brief account of business experience in the past five years and any involvement in legal proceedings which are material to evaluation of the ability or integrity of any listed person.

C. Briefly describe any material pending legal proceedings to which the proposer, or any of its subsidiaries is a party or of which any of their property is subject.

D. Submit audited financial data for each of the last five fiscal years to include at a minimum income statements, balance sheet, and statement of changes in financial position.

2. Discussion of the prospects for the near term future (3-5 years) financial condition based upon projects and ventures underway or planned. Describe the nature of all major commitments presently obligated and discuss their possible bearing upon the firm's financial ability to meet the performance requirements for the project.

3. Description of the form and financing of newly-created entity that may be proposed to carry out the project; state relationship to parent firm.

4. Indentification of the largest five performance bonds secured during the last 5 years, including type (operating, construction, etc.), amount of guarantee, date, type of project and company providing bonded coverage.

5. Copies of the Prospectus, Official Statement and/or any other disclosure documents pertaining to equity or debt issues over the last 5 years.

6. Since the City expects the selected contractor to finance the facility, explain the proposed financing approach, including:
   A. Description of the willingness to make equity contribution to this project.
   B. The proposed form of such financing and conditions associated with it.

AFFIRMATIVE ACTION

Provide a copy of the firm's Affirmative Action Program. In addition, indicate the extent of minority business enterprise participation in the project team.

Of the forty-five RFQs issued, the City received eleven SOQs. The responses were evaluated according to the following criteria:

1. Solid Waste Resource Recovery Experience - Firms responding to the RFQ will be evaluated on the basis of their demonstrated expertise in the design and construction of solid waste management/resource recovery systems. Firms will also be evaluated on the basis of their involvement in the operation of facilities and the marketing of recovered resources. Only those firms who have successfully designed, constructed and operated at least a 100 tons/day facility will be considered to be qualified for this project.

2. General Management and Technical Experience - Firms will be evaluated on the basis of their demonstrated overall management and technical expertise and experiences as reflected in the success of significant and complex projects undertaken in the past. Special emphasis will be placed on the firm's track record in working with the public sector and building and operating facilities similar to that proposed.

3. Financial Stability and Strength - Firms will be evaluated according to the following financial criteria:
   a. Overall financial condition of the firm, including Standard and Poors or Moody's Bond Rating.
   b. Long-term viability of the firm.
   c. Financial capacity to meet contractual commitments.
   d. Ability to secure performance bonds of required size for this project.
   e. Financial ability to take on a project of this size based upon past and future commitments.

4. Corporate Commitment - Firms will be evaluated on current and past corporate commitment to resource recovery as a business area as evidenced by staffing, past projects, levels of research and development and past financing commitments. Included is the willingness to enter into a full-service type of agreement for this project.

5. Technical Approach - Firms will be evaluated on the appropriateness of their technical approach to meeting project needs. Commitments
to proven resource recovery processes and appropriately experienced subcontractors will be included in this evaluation.

6. Affirmative Action — The firm's Affirmative Action Program and proposed extent of minority business enterprise participation will be evaluated to determine compliance with the City's Affirmative Action Requirements.

The evaluation team reviewed all the SOQs and sent letters requesting clarification of data or additional data and scheduling interviews with all respondents. The interviews consisted of a 30 min. presentation by the respondent and a 30 min. discussion period in which deficiencies of the SOQ were addressed as were also the respondent’s questions pertaining to the procurement process or RFQ document. Subsequent to the interviews, a second letter was sent requesting clarifications of or additions to the original submittal. All respondents were given the opportunity to resubmit SOQ packages.

CONCLUSION

Based on experience to date, the following observations are noted:

1. The procurement process utilized by the City of Berkeley is an expensive one for both the development agency and proposal respondents.

2. The lack of Federal monies to support resource recovery development will mean less detailed and shorter procurement processes in the future.

3. The procurement process is a time consuming one, especially when the prequalification (RFQ) process is utilized. Procurement, from RFQ issuance to contract award, may reasonably require eighteen months.

4. The procurement methodology utilized provides the broadest possible field of well-qualified respondents, however, allowing all qualified respondents to receive the project RFP may in fact discourage well-qualified respondents from submitting a proposal due to the number of firms expected to compete. The process allows for high degree of competition but this may actually become a deterrent for the development agency.

5. The coordination of two staggered, parallel procurements is difficult, with gaps in information complicating preparation of the latter procurement documents.

6. Evaluation criteria must be flexible to allow for interpretation of data.

7. Interview sessions held during the prequalification stage were very informative and a useful tool, allowing evaluators to gain an idea of the respondents' actual experience on similar projects and affording respondents an opportunity to strengthen their project team and to provide input to the project RFPP.

8. Many respondents did not provide information as requested in the RFQs; a great deal of correspondence is required to fully inform respondents of deficiencies.

9. Additional correspondence is required to inform all RFP recipients of questions and answers discussed or submitted for discussion at the preproposal conference.

10. It is to the development agency’s advantage to include the project contract in the RFP, allowing for modifications during negotiations, if so desired. This procedure is also advantageous to the proposer as the actual contract terms are available for review.

11. In order to effect item No. 10 and for multiple other purposes, the strong use of legal council is advised.

12. While initial enthusiasm from the private sector was high, the number of firms competing reduced markedly as proposers' submittal requirements increased.

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Key Words
Berkeley
Full Service
Procurement
Request for Proposal
Resource
Turn Key