

# CEE Case Study

## City of San Francisco

### A. Background and Perspective

#### I. Organization, Staffing Levels and Primary Function

San Francisco, located on the coast of California, occupies a peninsula that is the southern landfall of the Golden Gate. The population of the city proper grew by 6.6% between 1980 and 1990 to 725,000. The population of metropolitan San Francisco is 1.6 million. The city is coextensive with San Francisco County and is governed by a mayor and a board of supervisors. San Francisco is a popular tourist city. The weather remains mild throughout the year, with average monthly temperatures differing little from January to September.

San Francisco's economy is very much dependent on white-collar industries. The Presidio, on the north coast of the city, was established as a Spanish fort in 1776. The first civilian settlement, name Yerba Buena, was established in 1835. It was renamed San Francisco during the Mexican war. In 1906 San Francisco suffered a major earthquake; the resulting three day fire razed the core of the city. The city was quickly rebuilt.

The City of San Francisco is a leader in programs for municipal energy conservation, recycling, water conservation, pollution prevention, and public health. It's municipal environmental programs are centralized under one agency. The City's Bureau of Energy Conservation (BEC) reduces energy use in city facilities and promotes energy efficiency in the private commercial and housing sectors. The BEC designs energy management programs for San Francisco, seeking ways to save energy through increased efficiency, but also to save money through reducing operations and maintenance demands, to improve working conditions, and to increase equipment safety.

The City currently employs 30,000 people. There are 90 bureaus within the City. Purchasing is organized into four divisions: the Buying Division, Central Shops, Reproduction and Mail Services, and the Central Warehouse. Procurement of equipment, supplies and general services is generally centralized under the Purchasing Department, which is under the jurisdiction of the Chief Administrative Officer. There are at least 25 individuals employed by Purchasing in its central and satellite offices.

#### II. Annual Capital and O & M Budgets

The electric budget for the City is \$50 million. The BEC has invested \$9 million in 100 buildings. The City occupies 700 buildings, has 1200 electrical meters, and 300 gas meters. There is no interdepartmental billing. PG&E does the meter reading, while Hetch Hetchy pays PG&E for the wheeling and distribution charges. Each division is given money every year based on last year's energy use. If the division does building retrofits they don't get their extra funds from savings reincorporated into their budget,

they just receive less funds. Electricity rates are very low at 3 cents per kWh for the general funds sites, 8 cents per kWh for revenue generating sites, and 7.7 cents per kWh for the airport.

The City buys \$1.5 million in electrical materials, which does not include lamps, computers, or refrigerators. There are 12,000 workstations in the City, and they have a five-year replacement cycle. They buy roughly to 3000 to 4000. The City spends \$700,000 annually in lamps and ballasts. There is also a \$200 million project going on to put new electrical lines in. This project will also upgrade the street lights at the same time and upgrade for energy efficiency.

### III. Highlight of the Procurement Function

Purchasing in the City of San Francisco is very decentralized. The Purchasing Department solicits competitive bids and awards contracts for commodities or general services used by all city departments. For construction or architecture and engineering services, the bidding process is conducted by (and the contracts are signed by) the following departments: the airport (SFO); the Department of Public Works (DPW); the Port; the Public Transportation Commission (PTC), which includes the Municipal Railway; the Public Utilities Commission (PUC), which includes the Water Department and Hetch Hetchy; and Recreation and Parks Department.

In order to work with the City, vendors call either purchasing or one of the departments for which they would like to work. The City also publishes a newsletter titled " bid and contract opportunities ". The newsletter is published by purchasing every week, and summarizes upcoming purchases of products and services, as well as construction projects, professional services contracts, and concessions and leases.

There are several different types of awards in the City. They are as follows:

**Purchase Order:** Used for a onetime purchase of a definite quantity of goods.

**Contract Purchase Order:** For construction, professional services, and other transactions. The Contract Purchase Order verifies that funds have been encumbered and that performance can begin.

**Departmental Blanket Purchase Order:** This enables a City Department to order directly from the vendor. This may cover limited purchases of items not on a city wide blanket, or monthly charges such as for copier rental or maintenance.

**Emergency Order:** For emergency situations. A confirming purchase order follows.

**Revolving Fund Order:** Departments place low dollar orders directly with vendors, and then pay the invoices with checks from their separate revolving fund accounts. These orders occur without the participation of purchasing or any other contacting department.

**Departmental Purchase Order (DPO):** Departments may place their own orders for

products up to \$5,000. For orders below \$2,500, departments are encouraged to solicit competitive bids, and have the option of placing an order verbally, or sending a hard copy DPO. For orders between \$2,500 and \$5,000, departments must request at least three bids and must send the hard copy DPO to the vendor.

For revolving fund orders and DPO, the department will deal directly with the vendor, and purchasing will not be involved.

The City relies heavily on competitive bidding. No department knows which bidder will receive an award until sealed bids are opened. There are three main ways a city employee purchases products: the definite quantity contract, the term blanket (city or department wide) contract, and a purchase order. The definite quantity contract is used for purchasing products that are in definite quantities like purchasing its truck, or a large air-conditioner. There are several citywide blanket term contracts for such things as chemicals, water, and lamps. There are 200 total citywide blanket term contracts. Department term contracts can be up to \$50,000 and \$1,000 dollars per day.

Purchases less than \$5,000 needs only departmental authority. Purchases of less than \$200 can be directly purchased by an individual. Roughly 80% of the total dollars spent in the City are on purchases under \$5,000. Anything over \$1,000 has a budget line item, and has to go through a full purchase order.

The City has very strict terms and conditions for a city contractor. For instance, the domestic partners ordinance give priority to companies that contract with the City to offer domestic partners the same benefits that it would to married partners of the employee. Because of the strict terms and conditions, the City has trouble participating in State contracts. There has been precedence set in the past however, where they could get a much better deal and so could use the State contract.

They now have centralized computer purchasing, with five vendors under contract. Individuals purchasing computers don't need to go through the three bid process, they can choose any product on the list.

Construction contracts are decentralized. The following departments individually evaluate proposals and contracts: San Francisco International Airport; the Recreation and Parks Department; the Port; the Public Utilities Commission (the City agency, not the State PUC); the Public Transportation Commission; and the Department of Public Works, which is also under the jurisdiction of the Chief Administrator Officer.

Professional services (e.g., consulting contracts) are evaluated and recommended by the individual City departments. The Purchasing Department officially awards contracts.

#### IV. Importance of Energy Related Products to the Organization's Function

The City of San Francisco buys everything needed to run dozens of city departments, including: an airport; hospitals; police and fire departments; general offices; medical laboratories; water and electrical distribution systems; waste-water treatment; buses,

streetcars, cable cars; and maintenance and construction of buildings, roads, parks, playgrounds. The City purchases a variety of products, including most of the product categories in the Toolkit.

The City also contracts for a variety of new building and building retrofits services as well as operations and maintenance, architectural and engineering, and facilities management. They also contract for various types of street repair.

#### V. Profile of Past Years Energy Related Purchases

The City spends \$400 million annually on a combination of water, sewer, and energy. Under the management of Hetch Hetchy Water & Power, the PUC operates five dams, three hydroelectric plants, three mountain reservoirs, pipelines and transmission lines located in and adjacent to Yosemite National Park. Water is piped more than 150 miles to the Bay Area where it is distributed or stored in local reservoirs for later distribution by the PUC. Electric power generated at Hetch Hetchy is sent over hundreds of miles of transmission lines to PG&E's transmission grid in Hayward for final distribution. Power is provided to City departments (e.g., SF Municipal Railway, City offices, SF International Airport, etc.) and sold to two irrigation districts in the Central Valley. Surplus power is sold to commercial customers. Retail power is not provided to the general public. Hetch Hetchy water is so pure, that government regulators do not require that it be filtered (one of the few major unfiltered water sources in the U.S.).

### **B. Findings-Procurement Process**

#### I. Guiding Regulations

City departments can do their own purchasing of products, for up to a maximum of \$5,000. City procedures require departments to solicit three bids for orders over \$2,500, and encourage departments to solicit bids for orders below \$2,500. Purchases of less than \$200 can be directly purchased by an individual. Roughly 80% of the total dollars spent in the City are purchases under \$5,000.

For bids over \$50,000, Purchasing requires a formalized bid process by sending of proposals to potential bidders and advertising the bids in the city's official newspaper. For bids under \$50,000, purchasing sends an informal bid called a quotation. These quotations are not advertised but are sent to a minimum of three prospective bidders. Bids and quotations of \$5,000 and above are listed in the " Bid And Contract Opportunities " newsletter. For and urgently needed items purchasing requests quotations by telephone. Vendors are not necessarily sent a bid but are expected to see the bid in the City's " Bid And Contract Opportunities " newsletter.

Construction bids, and architect engineering bids are solicited directly by the construction departments. Professional services are solicited by City departments.

One guiding regulation that often makes it difficult for the City to receive a large number of bids is the MBE/WBE/LBE ordinance. This ordinance was enacted to increase the opportunities for local disadvantaged businesses, including minority owned or woman

owned businesses and to partially compensate for the high administrative cost of doing business in the City. Five to ten percent bid preference is given to organizations that can meet with the above criteria.

## II. Other Internally Required Analysis/Procedures

Electrical materials such as lamps and ballasts goes through the Purchasing Department. Motors are all a direct quantity product. Occasionally, refrigerators are purchased through department budgets. The Purchasing Department doesn't see any of the HVAC equipment, since it is all installed by contractors.

The BEC has influenced several citywide contracts. For example, according to their recommendations, appropriate language was added to the recent bulb contract. Contractors must now submit reports on energy efficiency to the BEC. The BEC reviews the reports and makes recommendations to Departments about energy efficiency. They tried to influence the recent office equipment contract, but were too late in the process. However, there is a possibility that the contract could be amended.

The purchasing department does not have influence over office equipment purchasing; when it gets to them the specifications are ready decided on. Copiers, however, are controlled by the purchasing department. They're currently putting together a new contract, and will work with the BEC on appropriate language.

## III. Final Criteria/Bases For Product Selection

The City follows the bid process outlined under guiding regulations, Section B.I. When bids have been analyzed purchasing will send a summary to the requesting department for review and recommendation. Purchasing awards to the lowest reliable and responsive bidder.

## IV. Planning Cycle/Timing Of Decisions

Contracts are generally set up for 18 months to two years, with an option for renewal of two more years. There is no set planning cycle.

## V. Standard Input/Information Sources

The BEC is part of the City's Hetch Hetchy Water and Power (HHWP) system, a public utility that supplies power to municipally-owned facilities. This group is responsible for providing the bulk of information on energy efficiency to all of the City of San Francisco's divisions. In the fiscal year 95 - 96 BEC began implementing a large scale retrofit program and began research on sustainable municipal building design.

The mission of the BEC is to reduce energy use in facilities and to promote energy efficiency in the private commercial and residential sectors. They have produced a variety of energy efficiency fact sheets, including Compact Fluorescent Lamps, T8 Lamps/Electronic Ballasts, LED Exit Signs/Retrofit Kits, and Energy-Efficient Design Practices. They also publish *Energy News*, a periodic newsletter describing recent energy conservation projects in the City.

BEC staff regularly attend conferences and meetings on energy efficiency issues. They are a members of the Urban Consortium's Energy Task Force, and nationwide organization of local government energy offices working on issues related to energy efficiency in public, commercial, and residential buildings as well as transportation. They also utilize the web, information from vendors, and trade and government publications for information. They specifically referenced FEMP guidelines for energy efficiency products as being a very good source of information.

The Purchasing Department also encourages vendors to contact them regarding the goods and services they wish to sell to the city. Buyers will meet directly with vendors to find out information about their products and services.

VI. Personnel Involved

We worked with individuals in both the Purchasing Department, and the Bureau of Energy Conservation.

Purchasing Department

Mike Ward, Contracts Specialist (Supervisor)  
 Rick Kimball, Senior Purchaser, Term Contracts Group  
 Carlos Chaves, Senior Purchaser, Satellite Office, Public Works

Bureau of Energy Conservation

Danielle Dowers, BEC  
 Roger Picklum, BEC

VII. Sign Off Responsibility And Thresholds--Flow Diagram

<b>Purchase Amount (\$)</b>	<b>Process</b>	<b>Approve/Sign Off</b>
\$200	Purchased directly by individual	None
Less than \$2,500	No bid process	Departmental
\$2,500 - \$5,000	Formal bid process, by telephone	Departmental
Over \$5,000	Formal bid process	Purchasing Department
Under \$50,000	Informal process, quotation	Purchasing Department
Over \$50,000	Formal process	Purchasing Department

VIII. Financial Parameters

See above.

IX. Potential Efficiency Gains

In 1995-96 fiscal year, the BEC saved the City approximately \$5 million through its past and present energy conservation programs. The BEC still feels there is a lot to do in most of the City facilities. For example, the BEC provided extensive assistance on the new

City Hall building, but a quick walk through of the building showed many areas for potential efficiency gains.

The BEC sees three levels of affecting City energy efficiency policy. The first is a citywide policy. This could be a long process as it would have to go through the board of supervisors. The second would be a case by case change by trying to influence the city- and department-wide blanket contracts. The third is general education of users.

#### X. Comments/Suggestions Regarding The Energy Star Purchasing Toolkit

In general, BEC staff felt the information present by FEMP guidelines was much more informative and applicable to their work. While the Toolkit gave some information of value, they like the more specific information available through the FEMP brochures.

### **C. Recommendations**

#### I. Host Organization – Prioritize Recommendations Considering Cost vs. Benefit

The following are solutions we have found could address a number of barriers we came across through this project.

##### 1. Rebuild America Program

The City is a Department of Energy’s Rebuild America program. Much of what is in this report, could become a revised action plan for the program. Cyane Dandridge, one of the investigators of this report, is the Rebuild program representative for the City of San Francisco.

##### 2. Education of Users

Holding an annual conference that is interactive in nature will enable attendees to focus on issues they are facing in energy efficiency procurement, and help them overcome these issues. This conference could highlight several issues:

- a) Have sessions in which the BEC presents their experiences and techniques, where everyone has a chance to address their own issues and where vendors have an opportunity to participate (at least during part of the session).
- b) Have sessions where the staff have an opportunity to give feedback to vendors on how they can better serve their customers. These could also include fundamental training in how the energy efficient products benefit (or otherwise) the users.
- c) A workshop could be put together on energy-efficient lighting at the PG&E Lighting Design Lab. A tour of an energy efficient building, led by the building facility manager could be held in conjunction with a workshop or educational seminar for building operators, facility managers, or Purchasing staff.
- d) Perhaps some sort of certification could result from these sessions.
- e) Perhaps some periodic meetings could result from these sessions.

Additionally, there should be some level of education at various City events over the year, especially at their monthly Buyers Meetings. Creating links to websites that highlight energy efficiency products and services will also help educate users. Getting “green tips” will help users spread information among their peers.

Another important part of the education of users is to encourage greater use of the Energy Star Purchasing Toolkit. Giving the binder to each buyer seemed to overwhelm most staff members; we suggest giving them only the information pertinent to their purchasing strategy. Following are other recommendations regarding the Toolkit:

- a) Encourage individuals to use the EPA's website by providing links to the City's website
- b) Provide more detailed product-specific information (similar to FEMP brochures and recommendations).
- c) Set up the Toolkit as a web-based subscription service, much like existing services used by procurement officials such as Buyers Lab and Data Quest ([www.dataquest.com](http://www.dataquest.com)). Offer a free subscription to users.
- d) Offer an Energy Efficient Product Procurement email listserv as part of Tool Kit subscription (or tap into existing procurement listserv services). Listserv would provide procurement officials with email notices of energy efficient product updates and provide a forum for email exchange of experience. The listserv could even give "green tips" periodically, and could keep users informed in a relatively non-intrusive way.
- e) Offer a training component with the Toolkit.

3. Increase use of Energy Star features in office equipment.

Work with BEC staff to highlight the benefits and to help expel some of the myths of Energy Star features in office equipment.

4. Work with vendors to educate users, and to increase their market share of energy efficient equipment.

Vendors could be encouraged to display Energy Star information at computer fairs attended by City staff, to participate in conferences and workshops on energy efficiency and to promote energy-efficient products in the City. A meeting could be held with local vendors, to try to understand their barriers for selling energy efficiency to the City, and to help them overcome those barriers. Holding an interactive meeting in a non-sales environment between vendors and staff would create a dialogue to help overcome barriers as well. These could be organized by utilities and energy efficiency business associations.

5. Work with professional associations of procurement officials.

Examples include: National Association of Purchasing Managers; National Contract Management Association.; National Association of State Purchasing Officials. As with the University of Washington, presenting information at local chapter meetings and national conferences would target not only the UCSF audience, but also a larger audience in a variety of institutions.

## II. Other Similar Organizations

We believe that many of the above recommendations would work well in similar organizations. Joining the Rebuild America program is a recommendation we can make to any state or local government organization. The organization receives a variety of assistance, both through the Department of Energy, and through other sources such as National Labs and other Rebuild partnerships.

An interactive conference, especially one that would include interaction between vendors and users to educate both parties and to start to overcome barriers. Other low cost recommendations include linking to EPA's website, and using a listserv to provide information including "green tips" that could be used for organization-wide newsletters.

Working with professional organizations would overcome barriers for a broad number of similar organizations, as you would be able to target multiple organizations.

There are 12 different BEC programs that could also be duplicated in other similar organizations. They are as follows:

**New Construction Design Review Program:** This program provides energy efficiency recommendations and capital assistance to municipal new construction projects and renovations.

**Energy-efficient Lighting Program:** This program performs approximately 10 small scale lighting retrofits in City facilities each year.

**Boiler Improvement Program:** This program funds BEC and Building Repairs to provide preventative boiler maintenance at City facilities and to identify potential boiler efficiency measures. In addition to saving energy and maintenance time this program reduces the likelihood of future costly repairs and improves operational safety.

**Facility Capital Improvement Program:** This program implements comprehensive energy retrofits involving a wide array of energy efficiency strategies for large facilities.

**Natural Gas Purchase Program:** This program provides technical review and analysis services to ensure the city's major gas using facilities qualify for the most advantageous gas rates, saving the city over \$1 million annually.

**Energy Efficient Lighting Materials Purchasing Contract:** This contract assists the Purchasing Department in providing energy-efficient lighting products to city department term contracts.

**Large-Scale Retrofit Program:** The BEC is evaluating alternative sources of financing and project delivery alternatives for implementing very large scale, multiple facility, energy efficiency projects in city-owned buildings. As an example, they can fund energy efficiency projects, up to 100%. They always try to work the best deal, i.e., the deal that would cost the department the least amount of money. They fund up to 80 to 90 percent of life cycle savings. There is good funding available to the city, with bonds level funding.

**Energy Tracking And Billing Program:** This program tracks energy consumption for each of the city's facilities to identify potential energy efficiency projects and to monitor past projects.

**Training Program:** The BEC has set up an account at the Department of Public Works to pay for city staff to attend classes on title 24 energy regulations, energy-efficient design, energy efficient operations and maintenance of lighting and HVAC equipment, and related topics.

**Lamps And Ballasts Recycling Program:** This program seeks to increase levels of waste recycling in all lighting construction retrofit projects in city government owned facilities.

**Pedestrian Lighting Taskforce:** The BEC provides organizational and technical support for this task force. The purpose of the task force is to examine current, local issues relating to pedestrian lighting and prepare guidelines for future installations.

**Community Sustainability Programs:** The goal of these programs are to advance the City and other municipalities' approach to energy conservation and urban sustainability, as well as work on urban sustainability issues with the local community.

### III. Purchasing Initiative - Necessary Procurement Tools and Aids

#### Case studies

Case studies can be built out of each of the pilot studies, plus additional case studies used from other similar programs (EPA or DOE programs), to share with organization wishing to do similar work. For case studies build on the pilot studies, the information in these reports could be condensed and presented in a format that is easier to read. Development costs would be minimal.

#### Green tips

Green tips could be developed on a monthly or other periodic basis, for inclusion in organization newsletter, or as general tips to be sent to a listserv. These tips could be taken from existing sources (again, EPA or DOE programs among others), and could focus on equipment and service related issues, as well as resources that exist to assist people in overcoming challenges. Again, development costs should be minimal for this effort.

#### Drop in policy language

Several of the organizations we spoke with were interested in other policies, city-wide, state-wide, or by department, that had been written and used by other organization. They were also interested in the processes used to get these policies in place; information on such could be included as a precursor to the language. Again, development costs should be minimal for this effort.

#### Toolkit more product focused

Several individuals were interested in product specific information about energy efficiency products, and a comparison between energy efficient and less efficient products. This could be done in conjunction with Consumer's Reports, which in the past

has issued reports with energy efficiency information for products; including that information, as it is available would partially satisfy the requests. In general, however, this type of information can be difficult to provide, as product information can become very quickly outdated. We felt that having more specific information than just “Efficiency recommendation depends on type and wattage of the lamp” would be useful for the lighting section. Even some information on general wattage and efficiencies by product type would be useful, e.g. T12 vs. T8 vs. T5 lamps, or comparing CFLs to incandescents. The development cost of such an effort can be more extensive than the other measures mentioned above, but also could be minimal depending on the effort involved.

#### **IV. Implementation Plan**

We will be working with the City of San Francisco, under the Rebuild America program, to revise their action plan for energy efficiency. This plan will outline the programs they will target both short and long term, as well as expansion of their partnership. We will continue to work with them as their program representative for this initiative.

The implementation plan for improving energy efficiency procurement in the City would focus on bringing to action many of the recommendations proposed above.

##### **Phase I: Scoping and Development**

We would meet with representatives from three of the key players in the procurement function including individuals from the BEC, purchasing agents, and product vendors to identify informational needs and help design effective formats for addressing these (e.g., meetings, technical sessions, etc.). We would expect to recruit individuals to be a part of developing and/or implementing educational activities. We would also identify state and regional organizations which could contribute value and resources. For example, the International Council for Local and Environmental Initiatives is working with the City on a Climate Change Action Plan, primarily through changes in purchasing practices. In the pilot project, we identified a number of areas to target.

- Work with the BEC and the Purchasing Department to determine the design of an interactive meeting held to educate purchasing officials and vendors
- Work with ICLEI to identify next steps.
- Attend one of the regular purchasing agent meetings and discuss how best to work with this group on energy efficient procurement.
- Meet with computer and copier procurement staff to identify concerns associated with use of the feature and recommending solutions.
- Work with EPA to provide more detailed product-specific information in the Energy Star Purchasing Tool Kit and to set up a web-based subscription service and email listserv as part of Tool Kit subscription.
- Work with local associations to convene a meeting of vendors to similar to the one held in Washington State.

##### **Phase II: Educational activities**

In this phase, we would act on priority recommendations emerging from the scoping meetings by developing educational formats, topic areas and a schedule for conducting

workshops or meetings. Examples might include interactive workshops with each of these key player groups; technical presentations at agency and professional association meetings; vendor fairs/product days for information exchange.

### Phase III: Feedback and Next Steps

In this phase, we would review feedback from participants involved in Phase II activities to identify which events were useful and specific actions that resulted.

### **V. Results**

These design and focus of implementation plan activities should be on these results:

- Common understanding of energy efficient procurement challenges,
- Increased commitment to solutions,
- Greater awareness of opportunities,
- Increased understanding of current information sources, and increased State-wide networking to improve access to information,
- Understanding of the resources vendors can bring to the process,
- Improved vendor-customer relationship.