

**St. Paul, Minnesota  
Pilot Project**

performed for  
**Northern States Power Company**

In collaboration with  
**The Consortium for Energy Efficiency**

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***Draft Report***

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## A. Background and Perspective

St. Paul is the capitol of Minnesota and the seat of Ramsey County. With a 1990 population of 272,235, it is the second largest city in Minnesota. The City's major industries are auto and truck assembly, printing, electronic equipment, abrasives, and appliances. St. Paul is a major trucking and air transport hub. The largest corporations are St. Paul companies, 3M, Ecolab, Minnesota Life, and Green tree Financial Corporation. It has two public universities and five private colleges.

The City Council is the elected legislative body. It has seven members, one from each ward. The Council sets policy and adopts the City budget. The City has a mayor/council form of government. The mayor is the elective chief executive. He can veto Council actions, and five votes are required to override a veto. In addition, the City has 17 Citizens Participation Planning Districts. Each of these has a District Council that supports community involvement in the City. St. Paul's city government has 19 departments and offices.

### I. Organization and Staffing Levels

The City of St. Paul's Division of Contract and Analysis Services provides procurement services for both Ramsey County and for the City of St. Paul. Ramsey County and the City of St. Paul have separate property management organizations.

#### Procurement

Attachment 1 is an organization chart of the City of St. Paul/Ramsey County procurement organization. This centralized purchasing unit is responsible for commodity purchases for both governmental bodies. The only exceptions are for some professional services, some human services agreements, and purchases under \$750. The unit is organized by types of products purchased, with each buyer responsible for about 10 to 15 different commodities.

#### Capital Projects

Each City department has its own facility management group. Thus, Public Works, the police department, the fire department, and so forth each have their own property management organization. These groups oversee their existing buildings, and they also are responsible for new building construction and for building renovations.

The centralized Real Estate unit in the Department of Technology and Management Services has several responsibilities. It handles real estate brokerage (the buying, selling, and leasing of facilities) for the entire City. In addition, the unit manages two of St. Paul's largest buildings. Finally, there is also a six-person design group within Real Estate. When requested to do so, the design group manages facility remodeling and, less frequently, new construction for other City departments. Thus, the design group is

directly the architect of record on some smaller projects and manages third party architects/designers on others.

## II. Highlights of the Procurement Function

### Procurement

The centralized procurement unit is responsible for setting up master contracts that fix price and other terms and conditions. These contracts are normally rebid every two years. When City of St. Paul departments use these master contracts, they place orders directly with the relevant vendors. There are more than 500 master contracts. The Joint Purchasing Office also makes purchases from contracts established by other organizations (such as the State of Minnesota, the University of Minnesota, Hennepin County, and Minneapolis) with which there is a joint powers agreement. In addition, the purchasing organization makes many one time only purchases using purchase orders.

Chapter 86 of the City of St. Paul Administrative Code allows departments to make purchases on their own if they will be \$750 or less. These are known as “*pick up orders*” and do not require involvement of the purchasing staff or competitive bids. The purchasing organization will help identify vendors for *pick up orders* when they are requested to do so.

The procurement organization maintains an information system for vendors called *Quest*. Using *Quest*, vendors can obtain purchasing forms and contracting and bidding information.

Procurement makes purchases using different methods that depend on the amount and type of purchase:

- Telephone quotes; a list of vendors (at least two must provide quotes) are given limited specifications over the phone. This method is used for simple products, when time is short, and the available vendors are well known.
- Fax quotes; a list of vendors is given limited specifications by fax. This method is used if the commodity is relatively simple. Two quotes must be obtained.
- Written quotes; this works like fax quotes, only uses the mail. This method has been largely superseded by fax quotes
- Unadvertised bids; notice of the bid is posted in the purchasing office and on *Quest*, and sealed bids are then opened and evaluated. This process is used for items under \$15,000, where a detailed specification is needed, where not all bidders are known, or where additional bidders are being encouraged.
- Advertised bids; Official bid notice is published for two weeks, and then formal sealed bids are evaluated. Chapter 82 of St. Paul’s Administrative Code requires that all items of \$15,000 or more be purchased through a sealed, competitive bidding process.

- Requests for proposals; notice of the RFP may be published. RFPs are used mostly for professional services and for some complex commodities. The lowest responsible bidder standard is not used in an RFP process.

The City has a legal mandate to award contracts to the lowest responsive and responsible bidder. However, when bids are not for identical items, “*quality, suitability, and adaptability*” may be considered. According to Purchasing Bulletin #4sp:

*Therefore, it is possible to make an award to a vendor other than the low bidder if it can be demonstrated that the item proposed simply can't do the job that needs to be done.*

Thus, a bidder other than the apparent low bidder can, when appropriate, be awarded the bid.

The St. Paul Administrative Code requires that a City attorney and the Director of Finance and Management Services must sign all contracts. The Mayor must sign contracts over \$15,000, and the Human Rights Director must sign those over \$50,000.

In addition, the Joint Purchasing Office handles the RFP process for professional services that includes architects, engineers, and general contractors. However, the procurement unit is not involved in setting the product specifications that are ultimately used in new construction or renovation projects.

### Capital Projects

Each year, every City department completes project applications for the capital projects they want to undertake. The City has a Capital Improvement Committee that includes residents of the City and that is assisted by a staff employee from the Budget department. The Capital Improvement Committee ranks the various proposed projects, and approves as many as can be accommodated within budget constraints. Then both the City Council and the Mayor must also review and approve the budget. Both new construction and renovation projects are included in this process.

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

St. Paul’s Capital Improvement Budget and its total budget for the last three years are as follows:

	1998	1999	2000
Total Budget (\$ millions)	\$439.3	\$449.3	\$474.1
Capital Improvement Budget (\$ millions)	63.6	65.5	80.0

### IV. Importance of Energy Related Products

The following are the dollar amounts of St. Paul's energy-related product purchases from 1995 through 1997:

Product	Dollar Amount of Purchases <sup>(1)</sup>		
	1995	1996	1997
Computer Hardware	\$956,513	\$202,883	\$624,613
Office machines	148,082	32,601	119,908
TV equipment	35,305	47,105	37,668
Refrigerators	-	-	5,557
HVAC	28,189	29,819	-
Total	\$1,168,089	\$312,408	\$787,746

Note: (1) Items purchased on contracts and pickup orders are not reflected in these amounts.

The dollar amount of energy-using products purchased as part of new construction and renovation projects is not available.

## B. Findings - Procurement Process

### I. Regulations, Analyses and Procedures

#### Procurement

There is no purchasing manual, and Purchasing Bulletins are used instead. Because not all policies and procedures are the same for the City of St. Paul and for Ramsey County, there are two separate sets of these bulletins. The six St. Paul bulletins received during this project did not address energy efficiency or life cycle cost analysis.

Specifications are usually written by the requesting department or agency, sometimes with the help of a third party consultant. The Joint Purchasing Office will assist in this process when requested to do so, and it may make recommendations whenever appropriate. The product specifications for Master Contracts are developed largely by the user departments/agencies, with the procurement organization assisting to reconcile any differences among user groups.

#### Capital Projects

A City ordinance requires that new construction and major renovation projects that are undertaken by City departments be reviewed by the design group, although this may not always happen in practice. However, more and more departments choose to ask the group for assistance because of their expertise (for example, in helping to develop product and system specifications), and also because the group is able to consider projects from a Citywide viewpoint.

Formal life cycle cost analysis (or its equivalent) is rarely done. Decisions are more often made based on judgmental analysis.

## II. Bases for Product Selection/Personnel Involved

Where cost and performance requirements are met, the Joint Purchasing Office awards contracts for products made from recycled material. It is planned that more specifications will be developed to support environmentally friendly products.

The Real Estate unit will employ energy efficient designs when it believes the payback is reasonable. Reportedly, there are few barriers to purchasing energy-efficient products, and the higher first cost that may be incurred is not normally a problem. This situation is partly a result of the desire to control operating budgets, and the understanding that reduced energy costs can play a major role. For example, the unit recently finished a large renovation involving 65,000 square feet, and there were no major impediments to using energy efficient products and systems such as for lighting, motors and pumps, and temperature sensors and controls.

## III. Potential Efficiency Gains

### Procurement

There does not appear to be any formal program aimed at purchasing energy-efficient products, and the extent to which energy-efficient products are purchased may not be tracked at this time. Furthermore, St. Paul departments and agencies may buy products costing less than \$750 independently, and they may not all be aware of the issue of energy-efficiency. Accordingly, there appears to be some potential to increase the volume of energy-efficient products that are appropriately purchased.

### Capital Projects

The Manager of the Real Estate unit has taken on energy efficiency leadership, especially for technical issues. Many City departments are not knowledgeable about the benefits of energy efficient products. The Real Estate unit has sometimes pulled together the various City departments' facility managers to work with them on important issues. One example was Real Estate's role in assisting the departments so that they could work with Northern States Power to take advantage of its rebate and other energy-efficiency programs.

The City's Budget department is also supportive of energy-efficiency, in part because this is one way to help control already-restricted operating budgets. In general, it is felt that there is strong informal support for energy efficiency programs throughout the City.

## C. **Recommendations**

There are reportedly few major barriers to implementing an energy efficient product procurement program in the City of St. Paul.

### Overall

- Appoint one or more managers as energy-efficiency “champions” to help educate St. Paul personnel about energy-efficiency. Because of his position, and the leadership role he has already begun to take in this area, the Real Estate Manager might be considered as one possible such person.
- Make energy efficiency an explicit part of the St. Paul Purchasing Bulletins and the documents that govern capital projects.

### Procurement

- Help to educate user departments/agencies about the benefits of energy-efficient products, emphasizing those products that are purchased without the involvement of the Division of Contract and Analysis Services. Work with the City’s energy-efficiency “champions” if they are appointed. Emphasize that energy-efficient products help to reduce ongoing costs and thus alleviate operating budget constraints.
- Utilize all available 0% or low interest financing and rebates for energy-efficient product purchases.
- Develop a guideline about using *life cycle costing* when specifying and purchasing products, and identify a present value or internal rate of return that is acceptable to the City of St. Paul. Introduce energy-efficiency specifications into Invitation to Bid and other procurement documents.

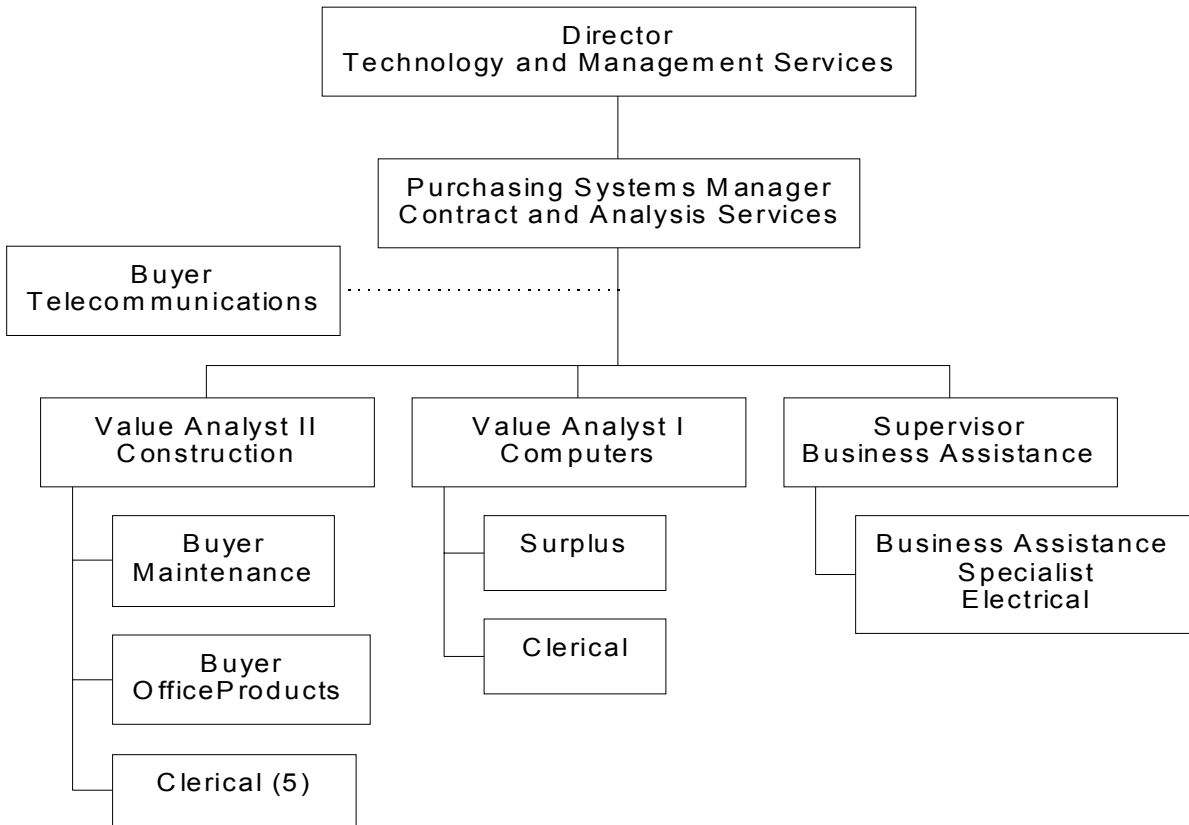
### Capital Projects

- Work with the decentralized facility management organizations in City departments to explain the value of energy efficient products and the need to require that they be specified very early in all capital projects. Educate the City’s Capital Improvement Committee about energy efficiency and its benefits.
- In 1997, the Minnesota Office of Environmental Assistance provided Hennepin County a grant to develop a *Sustainable Design Guide and Rating System* for buildings. The University of Minnesota was heavily involved in the project, one of whose primary goals was to reduce energy consumption in governmental facilities. Consider, in conjunction with Hennepin County, using the *Sustainable Design Guide and Rating System* for the City of St. Paul’s buildings.
- Educate third party architects and engineers about the benefits of specifying energy-efficient products. Ensure that they clearly understand the City’s requirements.

## D. Implementation Plan

Step	Status	Time Frame
Appoint one or more energy efficiency “champions”	Not yet formally begun	2 months
Include energy efficiency requirements in governing documents	Not yet begun	12 months
Educate user departments concerning purchasing energy efficient products	Not yet begun	24 months
Utilize available financing and rebates	Ongoing	Ongoing
Develop life cycle costing guidelines and introduce energy efficiency requirements in bid documents	Begun	Ongoing
Educate City departments’ facility management units and the Capital Improvement Committee about energy efficiency	Not yet formally begun	24 months
Consider using the <i>Sustainable Design Guide and Rating System</i>	Not yet begun	6 months
Educate third party architects and engineers about energy efficiency	Not yet begun	24 months

St. Paul/Ramsey County  
Contract and Analysis Services



Attachment 2

List of St. Paul Interviewees

Division of Contract and Analysis Services

Susan Feuerherm  
Value Analyst II  
651-266-8908

Duane Kroll  
Business Assistance Specialist  
651-266-8905

Department of Technology and Management Services

Charles W. Ekstedt  
Architect I  
651-266-9160

Dave Nelson  
Real Estate Manager  
651-266-8860

Attachment 3

Examples of Potential Cost Savings

The Environmental Protection Agency’s web site at [www.energystar.gov](http://www.energystar.gov) is an excellent resource to obtain more information about the procurement of energy-efficient products. Working together, the EPA and the Department of Energy are actively promoting the purchase and use of energy-efficient products. Products that meet their efficiency standards are given the EnergyStar® rating by these organizations. Typically, this means that they are in the top 25% of all similar products when ranked by energy efficiency.

The web site noted above contains data on many of the products that have the EnergyStar® rating, and it also references other web sites that contain additional product information. The web site contains a savings calculator (which is also included on a disk that comes with the EnergyStar Toolkit) that calculates the cost savings resulting from purchasing energy-efficient products. These savings result largely because of lower energy costs and the longer life of many of these products.

Some energy-efficient products have a higher purchase price than their less efficient counterparts. Thus, it is necessary to perform a *life cycle cost* analysis to determine the actual savings that will be achieved over the product’s useful life. *Life cycle cost* considers all product costs, even though they are incurred at different times (e.g., purchase cost is incurred up front, but energy usage and maintenance costs are incurred during the life of the product). The life cycle analysis determines the present value of all of these costs, i.e., what they would be if they were all incurred right now. The savings calculator does this using a spreadsheet. Comparing the *life cycle cost* of an energy efficient product with that of a less efficient product determines the savings that will be achieved over time.

The savings calculator has numerous user-determined parameters, such as energy cost per kWh, number of units being purchased, initial cost per unit, energy usage, and so forth. This information is required for both the energy efficient and less efficient products. The savings calculator then determines the net savings that will be achieved from buying the energy efficient product, and it also measures how much carbon emissions will be reduced because less energy is consumed. The following tables (which summarize the results from the savings calculator) show the savings that would be achieved from buying two different types of energy efficient products, computers and lamps. In each case, the EPA’s default parameters were used for energy cost, discount value of money, and so forth.

Computers and Monitors

	Energy Efficient product	Non-Energy Efficient product
Number of units	50	50
Watts per unit (in sleep mode)	45	N/A
Initial cost per unit	\$1,400	\$1,400
Product life (years)	4	4
Total annual operating cost	\$868	\$1,950

Lifetime operating cost	\$3,150	\$7,080
Purchase cost	\$70,000	\$70,000
Total life cycle cost	\$73,150	\$77,080
Net savings over product lifetime	\$3,930	N/A
Carbon emission savings (1)	8.42	N/A

Note: (1) This is the number of cars that would have to be removed from the road for one year to equal the carbon emission savings generated by the energy efficient product.

What this calculation says is that if you buy 50 computers that have a sleep mode, and you keep them 4 years, then using the sleep mode will save you (in current dollars) \$3,930. Also, the energy saved results in carbon emission reductions that are equivalent to taking 8.42 cars off the road for one year. (It should be noted that most computers sold today have a sleep mode and are therefore potentially energy efficient. The issue is that the sleep mode is very often disabled, especially when the computers are networked, and then the energy savings are lost.)

#### Ceiling Lamps

	Energy Efficient product	Non-Energy Efficient product
Number of fixtures	100	100
Lamps per fixture	2	2
Watts per lamp	18	60
Cost per replacement lamp	\$15	\$0.75
Initial cost per fixture	\$45	\$20
Fixture lifetime (years)	20	20
Total annual operating cost	\$3,203	\$8,415
Lifetime operating cost	\$42,706	\$112,644
Purchase cost (1)	\$6,000	\$3,500
Total life cycle cost	\$48,706	\$116,144
Net savings over product lifetime	\$67,438	N/A
Carbon emission savings (2)	126.41	N/A

Notes: (1) Purchase price includes initial installation cost.

(2) This is the number of cars that would have to be removed from the road for one year to equal the carbon emission savings generated by the energy efficient product.

This calculation says that if you buy 100 compact fluorescent lamps, then over their 20 year life they will save you (in current dollars) \$67,438. Also, the energy saved results in carbon emission reductions that are equivalent to taking 126.41 cars off the road for one year.