

**Ramsey County, Minnesota
Pilot Project**

performed for
Northern States Power Company

In collaboration with
The Consortium for Energy Efficiency

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Revised Draft Report

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Table of Contents

A. Background and Perspective	
I. Organization and Staffing Levels	3
II. Highlights of the Procurement Function	4
III. Annual Capital and O&M Budgets	5
IV. Importance of Energy Related Products	5
B. Findings	
I. Regulations, Analyses and Procedures	6
II. Bases for Product Selection/Personnel Involved	7
III. Potential Efficiency Gains	7
C. Recommendations	8
D. Implementation Plan	9

Attachments:

1. St. Paul/Ramsey County – Contract and Analysis Services
2. Ramsey County – Property Management
3. List Of Ramsey County Interviewees
4. Examples of Potential Cost Savings

A. Background and Perspective

In 1996, Ramsey County's population of 484,484 made it the most densely populated county in Minnesota, and the second largest in terms of overall population. Ramsey County includes 18 cities and one township. St. Paul is both the county seat and the state capitol. The major industries in the County are services, non-durable goods manufacturing, and state and local government. The County has the second highest per capita income of all Minnesota counties.

In 1990, Ramsey County became the only county in Minnesota to be governed by Home Rule rather than by state statutes. Home Rule is designed to offer citizens a major role in the County's decisions. The Home Rule charter required that the County prepare a comprehensive strategic plan, a document that is still under development. A County Board of Commissioners governs the County. Its seven members are each elected from a different district. The Board meets weekly to set policy and determine how funds will be spent. The Board appoints a County Manager to oversee daily operations.

Ramsey County government employs about 3,500 people. There are over 24 county governmental departments. The major ones are Human Services, Public Safety and Justice, Parks and Public Works, St. Paul/Ramsey County Public Health department, and Central Administration (including Budgeting and Accounting, Information Services, Personnel, etc.). Public Works has about 156 employees.

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 \$1,500. The unit is organized by types of products purchased, with each buyer responsible for about 10 to 15 different commodities.

Capital Projects

Attachment 2 is an organization chart of the Property Management unit. This unit is responsible for new facility construction and also for renovation of existing buildings. Property Management personnel manage many of these projects themselves, but third parties are used as project managers when necessary.

In addition, Property Management manages the Ramsey County Government Center and the City Hall/County Courthouse. The building managers oversee minor renovations for these facilities. Both of these buildings house multiple departments/agencies. Tenants are charged \$9.75 per square foot. This fee goes into an Internal Service Fund, with \$1.00 per square foot being placed in a capital fund. A third party manages the Landmark Center for Ramsey County.

Most single-occupant buildings are managed by the County department/agency that uses them. These departments and agencies see and pay their own utility bills for the buildings they occupy.

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 and Ramsey County departments use these master contracts, they place orders directly with the relevant vendors. In addition, 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.

City of St. Paul and Ramsey County departments are allowed to make purchases on their own if they will be less than \$1,500. These are known as "*pick up orders*." 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 are given limited specifications over the phone
- Fax quotes; a list of vendors is given limited specifications by fax. This method is used for purchases below \$25,000 if the commodity is relatively simple.
- 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 \$25,000, 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. Minnesota Statutes require that all items over \$25,000 be purchased through a sealed, competitive bidding process. Advertised bids must be used for items over \$25,000.
- Requests for proposals; notice of the RFP may be published. RFPs are used mostly for professional services and for some complex commodities.

For orders over \$1,500 a minimum of two quotes must always be obtained.

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

At the beginning of each year, every Ramsey County department/agency submits its requests for capital for every project that will be over \$25,000. The Capital Improvement Project Advisory Committee (CIPAC), a group of Ramsey County residents appointed by the County Commissioner, reviews the requests and ranks them according to their perceived need. A staff group that includes the Ramsey County Attorney and Property Management also reviews the proposals. Then the two groups meet to combine their rankings. Finally, the Ramsey County Board approves a final capital budget. Typically, about 50 projects are approved each year. Very large construction projects are funded directly by the Ramsey County Board over multiple years. Information on these projects is presented to the CIPAC for information only.

III. Annual Capital and O&M Budgets

Ramsey County's proposed year 2000 budget is \$430.5 million. Of this amount, the capital budget for year 2000 projects is about \$42 million, including \$9 million to be spent in year 2000 on the new jail.

Ramsey County is now undergoing a considerable amount of construction. They are currently involved in two major projects. In addition to the jail, a new juvenile detention center is also being planned. Furthermore, the County plans to construct two other large buildings in the next four years.

IV. Importance of Energy Related Products

The following are the dollar amounts of Ramsey County's energy-related product purchases from 1995 through 1997:

Product	Dollar Amount of Purchases ⁽¹⁾		
	1995	1996	1997
Computer Hardware	\$276,002	\$450,775	\$200,958

Office machines	29,188	15,669	7,523
TV equipment	8,646	61,265	16,248
Refrigerators	197,980	-	8,651
HVAC	66,842	75,923	2,504
Total	\$578,658	\$603,632	\$235,884

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 two Ramsey County bulletins (#1rc and #2rc) 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

Ramsey County does not have a capital project design manual. There do not appear to be any documented regulations or procedures that require consideration of energy-efficiency for the products that are used in new construction and renovation projects.

The major steps in planning and budgeting a large capital project are to:

- Investigate feasibility
- Prepare a preliminary budget and obtain Ramsey County Board approval of the concept and budget
- Hire a design firm using the RFP process and obtain Ramsey County Board approval of it
- Architectural firm prepares a schematic design and then the construction design and budget, and the Ramsey County Board approves them
- Hire a general contractor using the RFP process and obtain Ramsey County Board approval.

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.

III. Potential Efficiency Gains

Ramsey County is supportive of energy efficiency, and interested in reducing operating expenses. However, the County is also concerned with capital expenditures and their impact on bond issues and future taxes.

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, Ramsey County departments and agencies may buy products costing less than \$1,500 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

As with the Division of Contract and Analysis Services, Property Management is aware of the value of using energy-efficient products in its projects. NSP has been most helpful in this regard by raising energy-efficiency awareness and providing financial incentives. For example, Ramsey County used NSP's 0% interest loan program several years ago to fund the replacement of old T12 lamps with T8 lamps and electronic ballasts. Electricity usage was reduced about 35% as a result.

Historically, Property Management has relied on its consultants to provide their product recommendations on construction projects. These recommendations have tended to be the industry standard, which is always changing and now includes some energy-efficient products, e.g., T8 lamps and electronic ballasts. Recently, NSP has been involved in some capital projects. For the Ramsey County Juvenile and Family Justice Center, NSP made an energy-efficiency consultant available to assist on the project. The consultant prepared three different scenarios with differing amounts of efficiency in lighting, motors and controls, HVAC, windows and exterior materials and insulation. Because of budget issues, the design ultimately used included more energy-efficient products than had historically been the case, but less than in the most efficient scenario.

In another example, the RFP used in hiring an architect for the new County jail may have addressed energy-efficiency, but it is not clear that this issue arose when

evaluating the different proposers. Furthermore, the budget for the jail approved by the Ramsey County Board probably does not anticipate energy-efficiency, at least explicitly.

C. Recommendations

Overall

- Appoint one or more managers as energy-efficiency “champions” to help in educating Ramsey County personnel about energy-efficiency and to ensure that it is considered in procurement and in capital projects.
- Make energy efficiency considerations an explicit part of governing documentation.

Procurement

- Help to educate user departments/agencies about the benefits of energy-efficient products. Work with the County’s energy-efficiency “champions” if they are appointed. Emphasize the potential of energy-efficient products to help reduce operating costs and thus alleviate budget constraints. (See Attachment 4 for examples of the savings that can be achieved by buying energy efficient products.)
- 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 Ramsey County. Introduce energy-efficiency specifications into Invitation to Bid and other procurement documents.

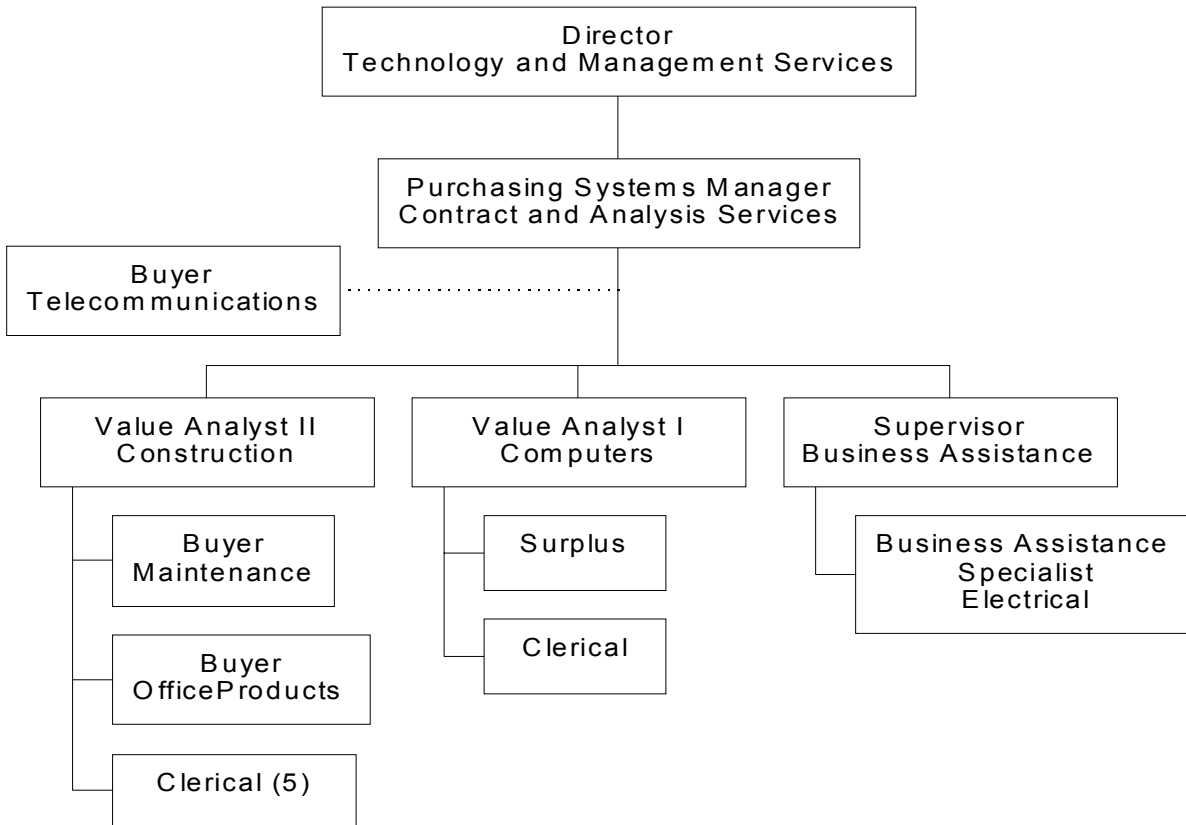
Capital Projects

- 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 Ramsey County’s buildings.
- Include energy-efficiency very early in capital projects. The preliminary budget and design concept approved by the Ramsey County Board should already include energy-efficiency.
- Educate third party architects and engineers about the benefits of specifying energy-efficient products. Ensure that they clearly understand the County’s requirements.

D. Implementation Plan

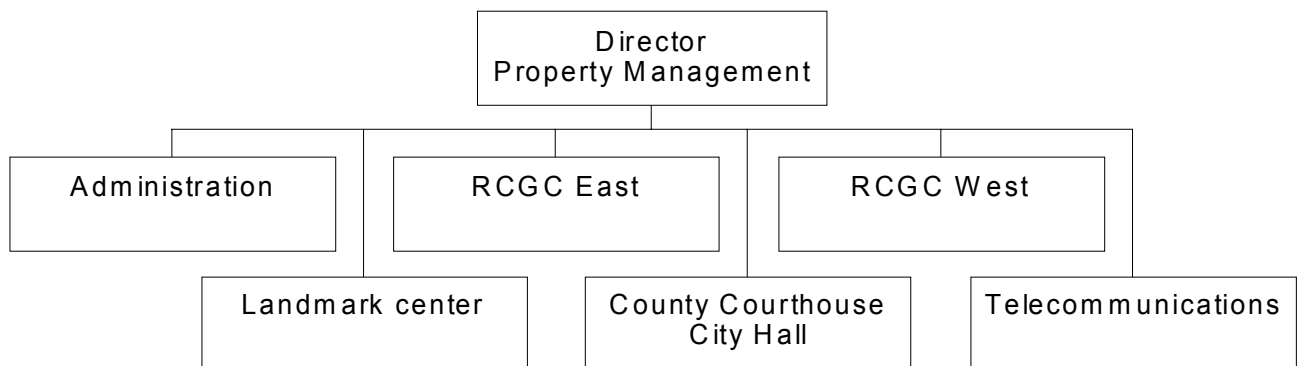
Step	Status	Time Frame
Appoint energy efficiency “champions”	Not yet begun	3 months
Add energy efficiency to governing documents	Not yet begun	12 months
Educate user agencies/departments	Not yet begun	24 months
Utilize all available financing and rebates	Ongoing	Ongoing
Develop life cycle costing guidelines and introduce energy efficiency specifications	Begun	Ongoing
Use the <i>Sustainable Design Guide and Rating System</i>	Not yet begun	6 months
Include energy efficiency very early in capital projects	Begun	Ongoing
Educate third party architects and engineers about energy efficiency	Not yet begun	24 months

St. Paul/Ramsey County Contract and Analysis Services



Attachment 2

Ramsey County
Property Management



Attachment 3

List of Ramsey County Interviewees

Division of Contract and Analysis Services

Susan Feuerherm
Value Analyst II
651-266-8908

Duane Kroll
Business Assistance Specialist
651-266-8905

Property Management

Fred Shank
Assistant Director – Renovation
651-266-2257

Bruce Thompson
Assistant Director
651-266-2262

Parks and Recreation department

Mike Mattson
Director of Operations
651-748-2500, ext. 310

Attachment 4

Examples of Potential Cost Savings

The Environmental Protection Agency's web site at 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.