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DEPARTMENT OF  
GENERAL SERVICES

CITY OF SACRAMENTO  
CALIFORNIA

5730 - 24TH STREET  
BUILDING FOUR  
SACRAMENTO, CA  
95822-3699

OFFICE OF THE DIRECTOR

916-449-5548

April 22, 1988

DIVISIONS:

Budget and Finance Committee and  
Transportation and Community Development Committee

COMMUNICATIONS  
FACILITY MANAGEMENT  
FLEET MANAGEMENT  
PROCUREMENT SERVICES

Honorable Members in Session:

SUBJECT: REPORT BACK ON STREET LIGHT CONVERSION COST BENEFIT

SUMMARY

This report is in response to a request made by Councilmember Kim Mueller at the Joint Budget and Finance and Transportation and Community Development Committee Meeting of April 19, 1988 regarding street light conversion cost benefit analysis.

BACKGROUND

The City's conversion of its street lighting system to more energy efficient lamps was planned to be accomplished in two phases over a 20 year period:

Phase I: The first 10 year program was for the conversion of approximately 7,000, 189-230 watt incandescent fixtures to 100 watt Mercury Vapor (MV) fixtures. This phase was completed in 7 years (1974-1980), resulting in a consumption/cost avoidance of approximately 2.1 million KWH of consumption, or \$58,580 per year.

Phase II: The second 10-year program, which began in FY 1979-80, was for the conversion of the remaining 9,839 (estimated) fluorescent, medium, and high wattage MV lamps and fixtures to lower wattage High Pressure Sodium (HPS). To date, in the ninth year of Phase II, 1,468 units of the planned 9,839 have been converted to HPS. All of the highest energy consuming lamps and fixtures (i.e., fluorescent, and incandescent) have been eliminated, along with a small number of high wattage MV units.

As of this point in time, a total of 14,316 MV units remain to be converted to HPS (7,000 units from Phase I and 8,371 units from Phase II).

COST ANALYSIS

Based on today's dollar values and electrical rates, the City's pay back on its investment for conversion of the remaining 14,316 Mercury Vapor (MV) luminaires to High Pressure Sodium (HPS) would be approximately 12.3 years (Ref. Table I). As the electrical rates increase, the pay back period will be reduced.

FINANCIAL DATA

Funding for the Street Light Conversion Program is not being appropriated in the FY 1988-89 CIP Budget.

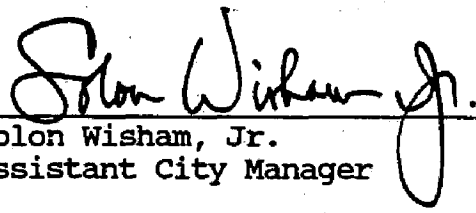
RECOMMENDATION

This report is for committee information only and requires no action.

Respectfully submitted,

  
Frank Mugartegui  
Director of General Services

FOR COMMITTEE INFORMATION ONLY:

  
Solon Wisham, Jr.  
Assistant City Manager

May 3, 1988

cc: V. Garcia  
F. Puccinelli

CITY OF SACRAMENTO

Street Light Conversion to High Pressure Sodium

Cost Benefit Analysis

| <u>Number<sup>1</sup></u><br><u>of</u><br><u>Luminaires</u> | <u>Conversion</u>        |                         | <u>Estimated<sup>2</sup></u><br><u>Conversion</u><br><u>Cost</u> | <u>Net Annual<sup>3</sup></u><br><u>Energy</u><br><u>Savings</u> | <u>Cost<sup>4</sup></u><br><u>Avoidance</u><br><u>Pay Back</u> |
|---|--------------------------|-------------------------|--|--|--|
|   | <u>From</u><br><u>MV</u> | <u>To</u><br><u>HPS</u> |  |  |  |
| 7,000   | 100W                     | 50W                     | \$1,190,000  | \$ 88,100  | 13.5 years   |
| 6,862   | 175W                     | 100W                    | 1,235,160  | 100,800  | 12.3 years   |
| 133   | 250W                     | 150W                    | 26,600   | 2,140  | 12.4 years   |
| <u>321</u>  | 400W                     | 200W                    | <u>64,200</u>  | <u>12,876</u>  | <u>5.0 years</u>   |
| <u>14,316</u>   |                          |                         | <u>\$2,515,960</u>   | <u>\$203,916</u>   | <u>12.3 years</u>  |

4/21/88

1. Inventory after completion of CIP SA71 provided by Public Works Engineering
2. Represents contracted labor and material costs
3. Savings based on present rates
4. Pay back based on present rates. Rate increases will reduce pay back period.