



CITY OF SACRAMENTO

DIVISION OF WATER AND SEWERS

927 10TH STREET SACRAMENTO, CALIFORNIA 95814-2796  
SUITE #201 TELEPHONE (916) 449-5271

CITY MANAGER'S OFFICE  
**RECEIVED**  
MAR 30 1983

ROBERT C. BITTEN  
MANAGER  
ROBERT W. JOHNSTON  
ASSISTANT MANAGER

March 30, 1983

City Council  
Sacramento, California

Honorable Members in Session:

SUBJECT: Electronic Meter Reading

SUMMARY

The attached report was presented to the Budget & Finance Committee on March 29, 1983 and was approved. It recommends using an electronic metering reading program.

RECOMMENDATION

It is recommended the City Council:

1. Approve in concept electronic meter reading as a successor to manual meter reading of water meters, and
2. Approve attached resolution amending the 1982-83 FY Budget for Division of Water & Sewers in the amount of \$39,603 to allow the purchase of electronic meter reading equipment.

Respectfully submitted

Robert C. Bitten  
Manager

Recommendation approved:

Walter J. Slipe  
City Manager

**APPROVED**  
BY THE CITY COUNCIL

APR 5 1983

OFFICE OF THE  
CITY CLERK

vz  
attachment

14-B-030-05-1

April 5, 1983  
All Districts

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# CITY OF SACRAMENTO

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## DIVISION OF WATER AND SEWERS

927 10TH STREET  
SUITE #201

SACRAMENTO, CALIFORNIA 95814-2795  
TELEPHONE (916) 449-5271

ROBERT C. BITTEN  
MANAGER

ROBERT W. JOHNSTON  
ASSISTANT MANAGER

March 17, 1983

Budget and Finance Committee  
Sacramento, California

Honorable Members in Session:

SUBJECT: Electronic Meter Reading - Water Meters  
Request for Budget Amendment

### SUMMARY

The City's Management Information Executive Committee approved recommendations from the Division of Water & Sewers relative to purchase of electronic meter reading equipment. This report submits the basic facts which justify a one-time expenditure for equipment and recommends amendment of the 1982-83 budget.

### BACKGROUND

There are currently 7,636 commercial water accounts of which 2,714 are metered. The remaining 4,922 accounts are flat-rated. Conversion of commercial flat-rated accounts to meters is proceeding at about 25 accounts per year. New and remodeled commercial accounts are required to install meters as a condition of service. Utility billing has four billing cycles consisting of 20 meter books which are read six times per year. Utility bills are mailed to our customers every two months.

Manual meter reading requires that readers carry about 125 loose IBM cards each day. Field data is written on each card. There are no field checks to catch faulty readings. Meter readers manually compute customer usage while in the field. Information pertaining to each meter and account must be written on the reverse side of each card. Retrieval of field input data must be captured manually to prepare information and management summaries for distribution. Meter reading on rainy days results in a wet document which is difficult for readers to write on and for keypunch operators to read. These problems have lead to billing errors.

Current technology in the field of electronics allows direct access to and from computers. By computerizing our existing water meter reading process, seven intermediate steps will be eliminated with associated savings.

Electronic meter reading would involve use in the field of a hand-held micro-computer which is water and dust resistant. Armed with a memory of 64,000 bytes, it can be programmed to meet our present and future needs. Typical information stored for each meter would be: 1) history of account; 2) high or

low water consumption; 3) challenges to questionable readings; and 4) visual and audible signals notifying meter reader of reading errors or special conditions.

Immediate benefits of electronic meter reading will be elimination of field and office meter reading errors. With improved accuracy at the beginning of the meter reading process, we can eliminate seven intermediate steps in the current billing cycle. Our current manual reading and billing cycles has 13 steps.

Meter readings would be electronically down-loaded directly into City's main computer via telephone from our meter shop at the Corporation Yard. This procedure will eliminate manual carrying of IBM Cards from the field to our downtown data processing center. Calculations and generation of billing printouts would automatically be produced by City's Data Processing Center.

Conversion of the manual system to electronic meter reading can be accomplished within 120 days following approval of the preliminary automated system design. City personnel under the direction of Jim Puthuff will complete the conversion within 277 hours of staff time.

City representatives have visited Coachella Valley Water District in Southern California to review actual operations of electronic meter reading. They have expressed their preference for electronic reading over manual reading.

FINANCIAL

Annual savings related to indirect salaries, equipment, and supplies due to reduction of seven steps in our present billing procedure are estimated to be \$18,000.

Initial capital outlay for equipment and conversion would be \$39,603 with an annual maintenance cost of \$3,648.

Estimated payback period is calculated to be 2.8 years.

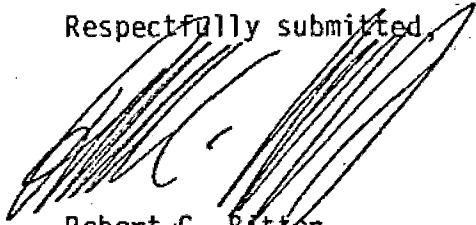
RECOMMENDATION

It is recommended the Budget & Finance Committee:

1. Approve in concept electronic meter reading as a successor to manual meter reading of water meters, and
2. Recommend to the City Council that 1982-83 FY Budget for Division of Water & Sewers be amended in the amount of \$39,603 to allow the purchase of

electronic meter reading and billing equipment as soon as possible. Attached is a resolution for action by the City Council.

Respectfully submitted,



Robert C. Bitten  
Manager

Recommendation approved,

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Solon Wisham, Jr.  
Assistant City Manager

vz  
attachment

**RESOLUTION NO. 83-254**

ADOPTED BY THE SACRAMENTO CITY COUNCIL ON DATE OF

**A RESOLUTION AMENDING THE CITY BUDGET FOR FY 1982/83  
FOR ELECTRONIC METER READING EQUIPMENT**

BE IT RESOLVED BY THE COUNCIL OF THE CITY OF SACRAMENTO:

- 1. This budget amendment is to provide additional funds for purchase of Electronic Meter Reading Equipment.
- 2. The City budget for Fiscal Year 1982/83 is hereby amended,
  - a. by appropriating \$39,603 from the Unappropriated Water Fund Balance (4-13) to the Water Distribution Budget 4-13-3030-1549-4630 for the purpose stated in 1 above.

\_\_\_\_\_  
MAYOR

ATTEST:

**APPROVED**  
BY THE CITY COUNCIL

APR 5 1983

OFFICE OF THE  
CITY CLERK

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CITY CLERK