OBJECTIVE

The Objective of this brief analysis is to evaluate the most cost effective method of collecting meter readings for the City of Rochester Hills water and sewer utility, on a short and long-term basis, with the information known today.

BACKGROUND

Three known options to capturing meter readings are evaluated. The first is to continue as the City operates, collecting the reads with touchpad equipment and City Staff. A second option is to purchase and install *Mobile* AMR (MIU, radio read) technology that involves driving a vehicle throughout the City to collect reads. AMRs/MIUs are units that are connected by wire to the water meters to transmit readings via radio frequency. The City recently went through a RFP process to evaluate *Mobile* AMR (radio read) technology and costs. *Fixed* AMR technology is on the horizon and would eliminate the need to drive a vehicle to capture the reads (reads would be obtained at a desk). A third option is to partner with Consumers Energy to contract out to read the water meters as Consumers Energy is reading their gas meters.

Meter reading costs will be recouped through customer charges in the Water and Sewer Fund via bimonthly billings.

ALTERNATIVES

OPTION 1 - TOUCHPAD

Currently, the City utilizes one Meter Reader position in a full-time capacity and various Laborer position in partial capacity to accomplish the water meter reading. In Fiscal Year 2003 and 2004, it took approximately 4,400 hours to accomplish the meter reading function, according to payroll records. This calculation also assumes final meter reading. This equates to 2.3 to 2.4 FTEs (Full-time Equivalents), when incorporating 11 paid Holidays and 3 weeks paid vacation into the calculation. This full-time equivalence is also inline with other comparable municipal water and sewer utilities. Fiscal Year 2004 wages attributed to meter reading amounted to $81,936 based on the City's payroll records (assuming it excludes paid time-off). Applying benefits at 50% of wages, a total wage and benefit cost amounts to $122,904. Vehicle charges attributed to meter reading in FY 2004 amounted to $32,716. A total cost for labor and vehicle amounted to $155,620 in Fiscal Year 2004. It can be assumed that wages and certain benefits will increase annually. The City also assumes the general liability along with workers compensation risks for this function.

OPTION 2 - AMR SYSTEMS (Automatic Meter Reading)

A RFP was solicited for *Mobile* AMR's recently. Seven vendors responded. AMCO, SLC and ETNA were short listed by the committee and interviewed. Important points are as follows:

ETNA – came out of the committee as the first choice when evaluating the AMR systems. It is important to note that some committee members made it clear that costs were **not** factored when scoring the vendors. It was discussed that the reasoning for ETNA's/Sensus higher scores was due to ETNA /Sensus MIUs being compatible with the City's old style TTR meters, as the other vendors' AMR were not. Yet, it is important that this is not an issue due to the fact that it was indicated in the Radio Read report last year from DPS, that TTR meters would be replaced in the next 48 months, as they have outlived their useful life. Therefore, this perceived advantage is not applicable and will not really be experienced, as the old meters will be removed by the time of full radio read implementation.

There is concern that the recommended AMR system is compatible with only Sensus and Neptune meters, according to the RFP and their interview. This is a disadvantage for future flexibility and competitive (pricing) when buying water meters, as the City will be restricted, thus reducing competition. The City's experience with ETNA as a meter and parts vendor, has demonstrated that ETNA has refused to negotiate pricing. There is a concern for future costs of MIUs, supplies and parts along with meters, by restricting business with this AMR vendor. Also, some City staff have expressed concern over this vendors consistent lack of response to calls made by certain departments.

High scores were received from some for having a back-up meter reading system by maintaining the touch pad reading. There was discussion that this would eliminate the need to gain access into a house when obtaining a final read. Although this is a positive point, the odds that a final read (usually performed when a transfer of ownership occurs) is needed at the same time a MIU or battery isn't working are very slim. As all MIU vendors have indicated, most times a MIU isn't working are due to cut wires, therefore the touchpad wires would likely be cut as well. A backup touchpad system would not have an advantage that it might appear to have on its surface. On the slim occasion that a touch pad is needed when a home cannot be accessed (a few times a year), a touchpad can quickly be installed to get an immediate read without getting into a house, should the City not chose the first vendor.

The first vendor's batteries were scored as having a life that surpasses other vendors. It is important to note that these batteries are warranted in full for 10 years and have **not** experienced batteries that have been in use beyond 10 years. This raises concerns for projections for future battery replacement costs, when determining the payback of this technology, which adds inherent risks to the timeframe of the payback. This first vendor has not had this battery in use beyond 10 years, in order to demonstrate to the City what expected battery life the City can expect to experience.

Also, it appears that cost saving calculation/payback has **not** take into consideration the following:

- labor costs for installing MIU's and batteries that fail prior to 10 years
- Any inflationary increases for replacement MIU cost and battery costs in years 10 through 20 along with applicable labor costs for replacement installation
- Meter reading costs for final reads

- Full wage and benefit costing (along with inflation) for MIU and battery installation, as done with meter reading projections

There is concern with the lack of information as to how the *Mobile* AMR technology will be utilized in the long-term plan, as this question has not been answered. As MIU's and batteries need replacement in years 10 – 20 years, what will they be replaced with (obsolete *Mobile* AMRs and batteries)?

OPTION 3 - Partnering

Consumers Energy is another option for obtaining the City's water reads. Consumer's Energy has provided meter reading for municipal water meters for many years. The City of Warren has just renewed a five-year contract with Consumers Energy to continue reading Warren's water meters. Consumers Energy presented their services before the same group reviewing the AMR RFPs. Representatives from Consumers Energy indicated the following:

- Meters could be read on a monthly or bimonthly basis, whichever the City preferred
- Consumers Energy would read 31,000 City water meters in 3 to 5 days
- Obtain 98% of water meter reads (City of Warren and Kalamazoo is an example)
- Consumers Energy will supply their own meter reading equipment at no cost to City
- Consumers Energy will supervise and manage the meter reading staff
- Consumers Energy will assume responsibility for general liability for damages and their meter reader injury
- Unionized and uniformed Consumers Energy employees would read the meters
- Reads would be uploaded to an electronic mailbox, to preserve the integrity of the City's software systems
- Consumers Energy will maintain technological support in order to provide useful reporting
- A contract would allow the City to get out of the partnership in 90 days
- Readers can make notes of site conditions (ex. Sidewalk trip hazards) into the guns and download along with the reads on a monthly basis, at no cost to the City
- Consumers Energy is currently trying to partner with DTE for meter reading, but has not yet
- Anticipate implementing *Fixed* AMR's in Michigan in 2009, but **cannot** guarantee the City will be able to select a *Fixed* AMR system

Consumers Energy has submitted prices under a 3-5 yr contract (1 yr is also available)for bimonthly billing at a rate of $0.59 per read. This contract would include a 6% annual escalator and start up fee of $17,500 for probes and custom file layout programming. The first year's variable cost amounts to $109,740 (assuming 31,000 reads, 6 times per year). By Fiscal year 2009, it would escalate to $132,672.

It would be the intent to partner with Consumers Energy, other municipalities, and utilities in order to implement a *Fixed* AMR system in approximately year 2009, in order to take advantage of the "economies of scale" that Consumers Energy's purchasing power brings. In addition to partnering together to accomplish a common task, meter reading. Should it be the case that the City does not wish to utilize the

same Fixed AMR system as Consumers Energy then the City can discontinue the partnership and purchase a *Fixed* AMR system.

CONCLUSION

It is the conclusion of the committee members representing the financial and technology areas, that of the meter reading options, partnering with Consumers Energy is the best choice. This option would not only accomplish reducing meter reading costs immediately, but potentially establish a long-term partnership to share future *Fixed* AMR costs, resulting in a reduced capital cost for the City. Not implementing *Mobile* AMR technology is not viewed as "dragging our feet" by many members of the committee, rather it is a decision not to proceed into a multimillion dollar technology implementation when it is on the brink of obsolescent *(see memo from the Supervisor of Communication Systems included)*. This result also, coincides with the City's stated goals of achieving efficient government by outsourcing /partnering as discussed in the 2004 City Council Work Session and being pursued as a method of reducing costs by other municipalities.