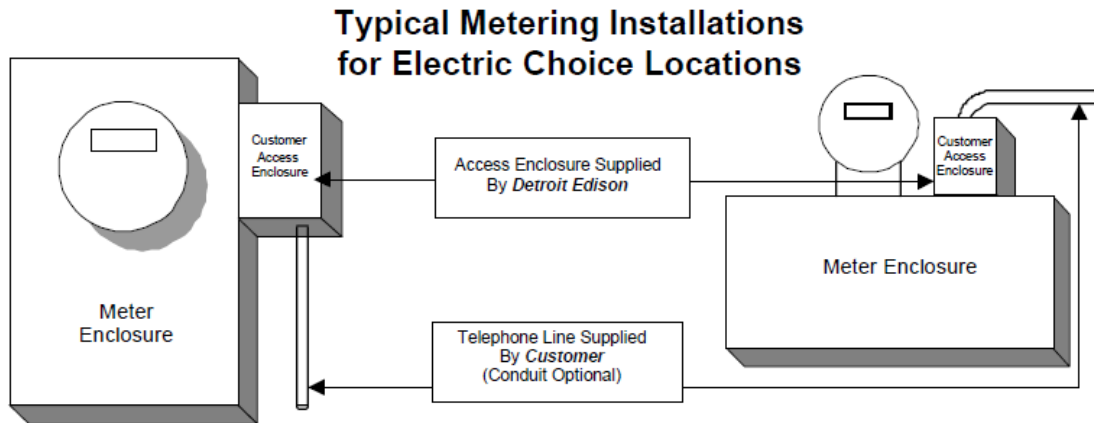


APPENDIX K
 Metering Installation

Typical Metering Installations for Electric Choice Locations



The diagram shows typical metering installations for customer locations that do not qualify for the meter waiver. Each installation will include:

- 1) A meter capable of measuring real energy (kilowatthours) and reactive energy (kilovarhours) and recording them in 30-minute intervals. Detroit Edison will supply, install and maintain the meter.
- 2) A telephone line to be used for communicating with the meter and retrieving the metered data. The customer will supply and maintain the telephone line.
- 3) Data pulse circuits from the meter. Detroit Edison will install the circuits and make them available to the customer for monitoring the meter's registration on a real-time basis.
- 4) A small metal box labeled "CUSTOMER ACCESS ENCLOSURE." Detroit Edison will use this enclosure to connect the meter to the telephone line, and the customer will use it to connect to the data pulse circuits. Detroit Edison will supply and install this enclosure.

Installations not meeting these requirements need to be upgraded before the customer can participate in Electric Choice. The three-step process described in Section 7.2 and summarized in the following paragraphs will be used to upgrade the metering installation.

- 1) A Detroit Edison Field Representative installs an interval meter and Customer Access Enclosure at the site. The Field Representative places the meter phone line and data pulse circuit in the Customer Access Enclosure. If the meter and/or enclosure cannot be installed for any reason, the customer will be informed of the reason.
- 2) The customer must provide a working telephone line as follows:
 If the meter configuration is set up as meter answers (MA), typically due to a customer or marketer wanting direct access to meter data, a dedicated analog* telephone line is required.

APPENDIX K
Metering Installation

The telephone line must be terminated either with an RJ11C or male-end jack inside the Customer Access Enclosure.

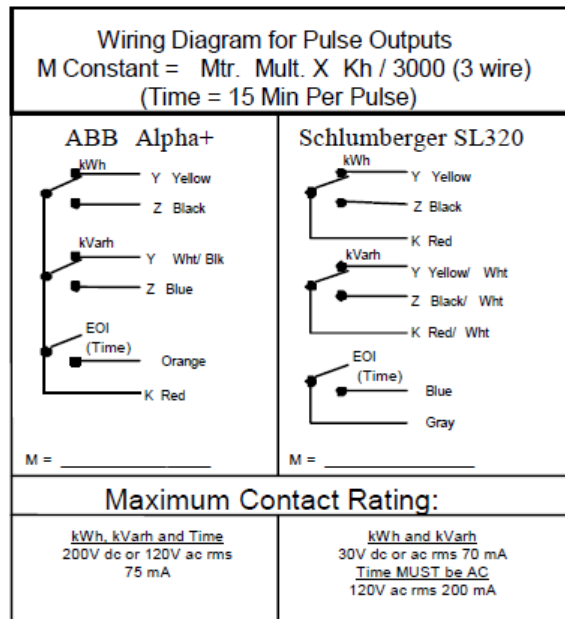
If the meter configuration is set up as meter calls (MC), a shared analog* telephone line can be used. The telephone line must be terminated either with an RJ11C or male-end jack inside the Customer Access Enclosure. It is at the customer’s discretion to install conduit to protect the telephone line from vandalism or unauthorized use and Detroit Edison highly recommends the installation of conduit.

The customer is responsible for all costs associated with supplying and maintaining the telephone line including any conduit.

***At Detroit Edison’s discretion, and when certain conditions prohibit the use of an analog telephone line, a cellular line may be acceptable.**

- 3) When the telephone line is installed and operational, the customer needs to notify Detroit Edison by calling the Electric Choice Customer Center at the toll-free number **888-235-3535** and provide the meter telephone number including any prefixes for the meter to dial an outside line. After this process is completed, Detroit Edison may initiate a field visit to complete the phone line connection to the meter.
- 4) The Detroit Edison Field Representative will test the telephone line to confirm that it is operational and connect the telephone line to establish communication with Detroit Edison data acquisition equipment. If the telephone line is not operational, the customer will be notified to correct the condition.

Data Pulses



APPENDIX K
Metering Installation

Sticker inside of customer access enclosure

- 1) Detroit Edison will supply data pulses (kilowatthour and kilovarhour) and a time pulse from the installed meter. A label on the inside cover of the customer access enclosure will display the pulse value in kWh/pulse (or m constant) of each 3-wire pulse.
The maximum contact rating is 70 or 75 milliamperes, depending upon the meter type installed.
- 2) The demand time interval is 30 minutes and occurs on the hour and half hour. The time pulse from the meter occurs at the end of the programmed meter interval (every 15 minutes) and is coincident with clock time. The time pulse interval (15 minutes) is not the same as the demand time interval (30 minutes) in effect. The Michigan Public Service Commission (MPSC) Rule B-6.5 (b) calls for the meter time to be within plus or minus four minutes of true time under normal operating conditions.
- 3) Special demand pulse values will not be provided. The pulse values are based on standard pulse ratios, current transformer ratios, and service voltages. The pulse value is the meter multiplier times Kh of the meter divided by 3000. The pulse value will be calculated and displayed on the sticker inside the customer access enclosure. These pulse values are subject to change due to current transformer replacement, service voltage change, or changes in pulse outputs by the meter manufacturer. Detroit Edison will inform the customer in advance of any such changes.
- 4) The customer must furnish its own totalizing equipment if it wishes to record demands (Kilowatts or Kilovars) on an integrated basis. By monitoring and properly accumulating these pulses, the customer will be able to determine their usage profile over any time period.
- 5) The customer is responsible for protecting the metering equipment from damage. Any maintenance required because of damage resulting from improper use or vandalism will be performed during normal working hours and at the customer's expense.
- 6) During periods of maintenance and/or meter testing, data pulses may be interrupted or artificially increased. Detroit Edison will notify the customer in advance of scheduled work.