Smart Meters

Cowlitz PUD has replaced traditional customer meters—whose only function has been to measure electricity usage—with advanced metering infrastructure (AMI), also known as “smart” meters.

Smart meters set the foundation for innovative projects to help customers manage their energy use while driving upgrades in overall reliability.

Cowlitz PUD uses a hybrid AMI system. Primary powerline Carrier (PLC) which does not use RF Communication. In some Areas, RF meters are used where PLC would not work.

Based on reliable industry studies, there are no known health effects from the use of smart meters, PLC or RF.

Wireless Issues

Some smart meters use wireless technology to communicate information about electricity usage to APS. The meters transmit this information through radio frequency (RF) signals.

Wireless smart meters result in much smaller levels of radio frequency (RF) exposure than many existing common household electronic devices.

Significant research on the thermal effects of radio frequency energy has been done over the last 30 years. The World Health Organization has concluded that no known adverse health effects can be attributed to low-level radio frequency.

Wireless meters send signals at brief intervals throughout the day, averaging just a few seconds exposure over a 24-hour period. The comparisons on the chart above are based on an assumption of an APS smart meter’s radio running 100 percent of the time.

RF Exposure

Milliwatts per square centimeter (mWcm²)

<table>
<thead>
<tr>
<th>Device</th>
<th>RF Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cell Phone at ear</td>
<td>0.05</td>
</tr>
<tr>
<td>Microwave Oven - 2 feet away</td>
<td>0.004</td>
</tr>
<tr>
<td>Smart Meter 8 inches behind wall</td>
<td>0.0009</td>
</tr>
<tr>
<td>Smart Meter - 10 feet away</td>
<td></td>
</tr>
<tr>
<td>Cowlitz PUD Smart Meter</td>
<td>Virtually Undetectable</td>
</tr>
</tbody>
</table>

Questions?

More information about radio frequency is provided by the following organizations:

- World Health Organization (who.int)
- Federal Communications Commission (fcc.gov)
- Electric Power Research Institute (epri.com)

Automated Metering Infrastructure

What is AMI?
Automated Metering Infrastructure or AMI includes digital automated meters, fiber-optics, computer hardware and software and power lines that work in tandem to automatically send your meter reading via a secure delivery process to the PUD.

Why switch to automated meters?
This allows the PUD to read meters every day, which opens up many new and future technologies that benefit customers – including net metering, prepaid metering, better outage management and future time-of-day rates.

Does this mean the PUD will no longer send a meter reader?
With remote readings we do not need to access your property monthly. However, for safety and reliability, we still plan to inspect the meter and other electric facilities on your property each year.

Will my energy usage be available to anyone?
No. All data is considered private and will not be used for purposes other than billing and PUD operations, as noted in our Customer Policy CS-7. Our computer system is protected by state-of-the-art firewalls and is in compliance with industry standards for security, making it secure from cyber-attacks.

Are there health concerns with the automated meters?
We are aware that some people believe digital meters can lead to certain health problems. The PUD believes the new meters are safe, just like the analog meters used before them. Most of the concern we have heard with the new metering is related to radio frequency (RF) emissions, which are minimal and significantly less invasive than cell phones or other wireless devices common in homes.
The PUD primarily uses PLC which does not use RF technology. However, the PUD is utilizing a hybrid PLC/RF system.

What if customers do not want an automated meter?
You can “opt-out” of having an automated meter. In that case we would install a non-communicating digital meter. There is a one-time charge of $135 for the replacement meter and cost of installation and a monthly charge of $25 to cover the cost to manually read that meter.

If I opt-out can I just read the meter myself and send the reading in?
That is no longer an option. We had a “card reading” program for many years, but recently eliminated it because we can read the meter remotely and we want to avoid bill timing and accuracy issues.

Will the PUD control customers’ energy usage with these meters?
Not at this time. However, automated meters do allow the option (PUD and customer) to include load reduction options. These programs are used in various parts of the U.S. and are yet to be developed for Cowlitz PUD. Any programs that is developed will be voluntary and no customer will be forced to participate.