

Overview of Gas Submetering and Runtime Allocation

Submetering and Allocation

- **Submetering** is the practice of installing individual utility meters (i.e., water, gas or electric meters) in each unit of a master-metered property*. Submetering can be further classified into two types: **Total Capture Submetering** and **Partial Capture Submetering**.
- **Total Capture Submetering** (also referred to as 100% capture) is a type of submetering in which all of the utility usage in the dwelling unit is measured by a single submeter. Total capture utility bills are based on the actual measured utility usage in each unit.
- As the name implied, **Partial Capture Submetering** measures only a part of the utility usage in each unit. For example, in some apartment communities the plumbing system will allow submeters to measure only a portion of water used in each dwelling unit. The most common partial capture application is to install a submeter on the hot water line coming from the water heater. This type of partial capture submetering is also called **Hot Water Allocation Submetering** or **Hot Water Hybrid Submetering**. The term "allocation" is used because a portion of each resident's water bill is based on the allocation (or estimation) of cold water usage. The term "hybrid" refers to the fact that this type of submetering is based on both metered and allocated usage.
- **Allocation** of utility charges can include hybrid applications like hot water allocation in which a portion of utility usage in the dwelling unit is based on metered usage and a portion is based on allocated usage. Another commonly used form of allocation billing is called **Ratio Utility Billing Service (RUBS)**. RUBS is a form of allocation billing in which the utility charges are based on a formula that takes into account several factors including number of residents in each dwelling unit, the size of each unit and the number of water fixtures in each unit. A very specific form of allocation billing is called Gas Runtime Allocation, which is discussed below.

* A master-metered property is one in which a single meter measures utility usage for an entire property or building. The property or building is converted to individual metered service by installing submeters in each dwelling unit.

Overview (continued)

Gas Submetering and Gas Runtime Allocation

- **Gas Submeters** can be installed in apartments that are individually piped for gas service. The submeters are installed on each unit's gas supply line. The submeters measure actual gas usage during the billing period. Residents receive a gas bill based on actual usage as measured by the gas submeter.
- However, many apartment communities have been constructed with heating systems that cannot be individually metered for gas usage. In these communities, high-resolution sensors can be installed to measure the runtime of gas-fired furnaces, hot water heaters and fireplaces. Baseboard heating systems require systems that measure temperature as well as runtime. Runtime is the actual operating time of the gas-fired appliances.

- **How are gas usage measurements obtained from each apartment?**

Gas submeters and runtime/temperature sensors are installed with radio frequency transmitters that electronically monitor and relay gas usage or runtime measurements to a central billing office.

- **How are gas bills calculated?**

Gas bills based on metered service are calculated by multiplying the local gas rate per cubic feet by the actual cubic feet of gas usage as measured by the gas submeter.

Heat-cost bills based on runtime/temperature allocation are calculated by combining runtime/temperature measurements with appliance BTU/hour ratings and local gas rates.