



We exist to deliver safe, reliable energy that drives value to our customers

AMI & Smart Meters – A Utility Perspective

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About NiSource



Serving nearly 4 million natural gas and electric customers across six states under our Columbia Gas and NIPSCO brands.

Number of customers:

OH – 1.5 million

KY – 150,000

PA – 450,000

MD – 35,000

VA – 300,000

IN – 800,000 Gas,
450,000 Electric

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Agenda

- AMI vs AMR
- NiSource history with AMR and AMI
- Benefits of AMI
- Challenges of AMI
- What is a Smart Meter?
- Where is the industry heading
- Feedback
- Questions

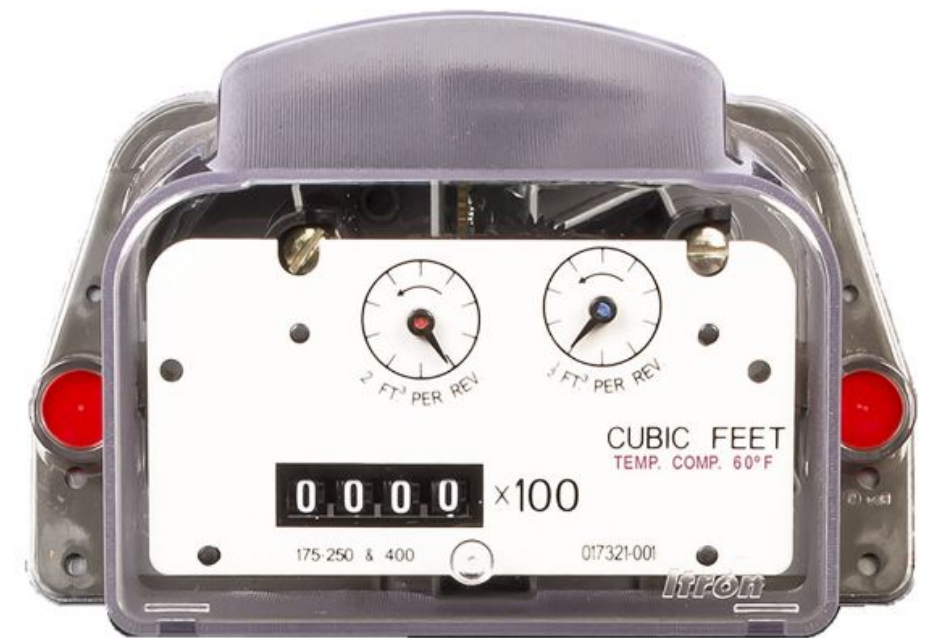


AGA Definitions

- **Automated Meter Reading (AMR):** *One-way* remote collection of consumption data from customers' utility meters using telephony, radio frequency, powerline and/or satellite communications technologies.
- **Advanced Metering Infrastructure (AMI):** An integrated system of smart meters, communications networks, and data management systems that enables *two-way* communication between the gas utility and customers.
- Source – AGA White Paper – “Automated Meter Reading (AMR) and Advanced Metering Infrastructure (AMI) Basics for Natural Gas Utilities” MAY 2021

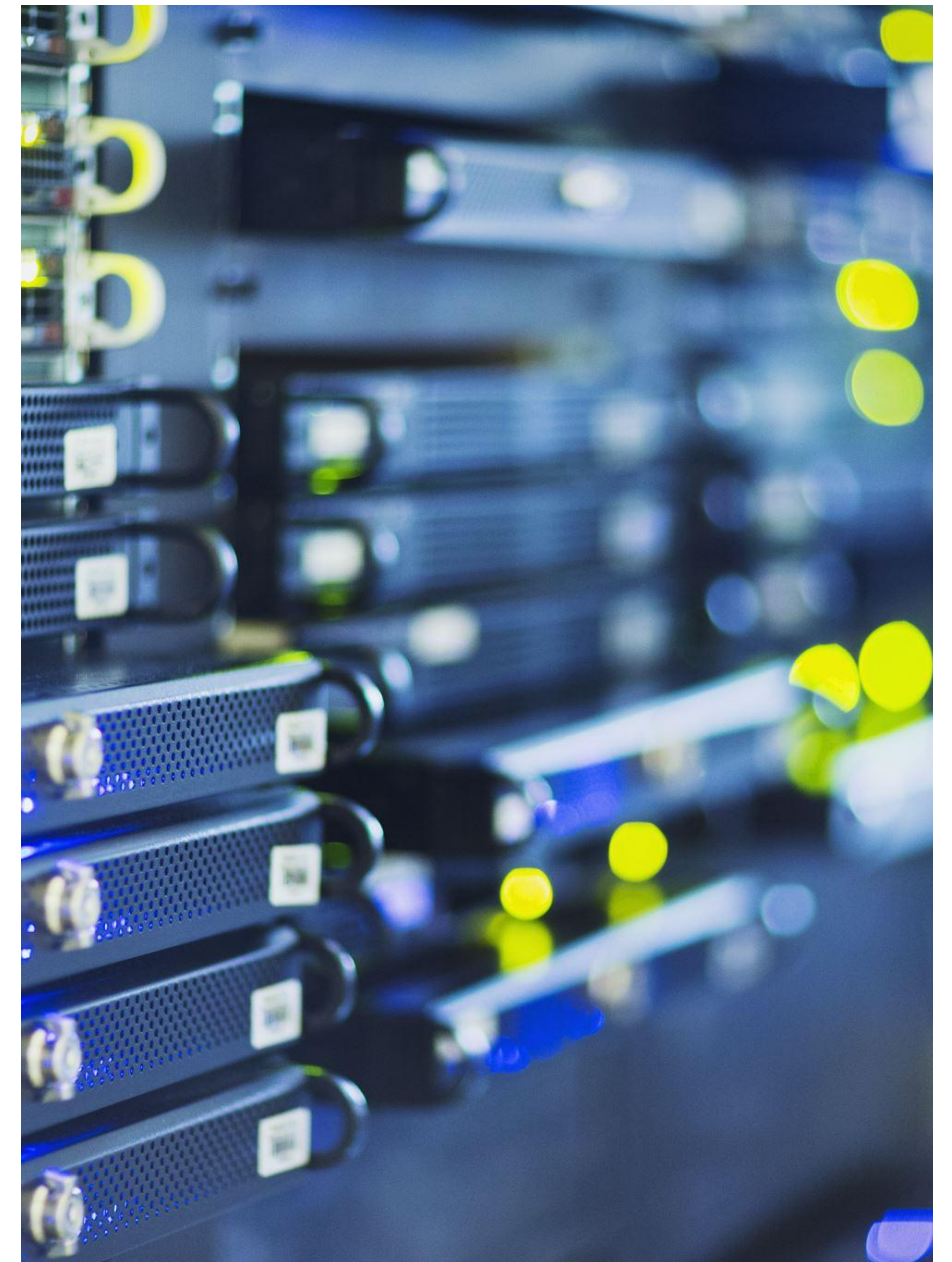
NiSource AMR/AMI History

- Early 2000's – Installed on hard to read accounts
- 2007 – First mass deployment in northern Virginia
- 2008 – 2013 – All states have AMRs mass deployed. Drive by reading.
- 2022 – Pilot AMI project of 500 Honeywell AC-250-NXS meters in Columbus
- 2022/23 – Limited installation of Itron Intelis in all states in AMR mode.
- 2023 – Planned AMI for Nipsco electric.



AMI vs SCADA

- Is AMI SCADA?
- **192.631 Control Room Management** – “This section applies to each *operator* of a *pipeline* facility with a *controller* working in a *control room* who monitors and controls all or part of a pipeline facility through a *SCADA* system. Each operator must have and follow written control room management procedures that implement the requirements of this section...
- **SCADA** - *a computer-based system or systems used by a controller in a control room that collects and displays information about a pipeline facility and may have the ability to send commands back to the pipeline facility*
- **Contact your Legal Department**



Benefits of an AMI or Smart Meter

More frequent
meter readings

Near real time
awareness of
alarms

Autonomous shut
off meter

Remote shut off
meter

Ability to shut off
all meters in a
system or affected
area

Identification of
issues before a
customer calls

Challenges of AMI/Smart Meters

More than just changing an index

Electronic indexes – “Dial” test

Wake up time/battery life

Internal processes

Open valve/Meter replacement

Data storage

Customer acceptance

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Alarms and Shut Offs

- Low Flow – High Flow
- Low Temperature – High Temperature
- Low Pressure – High Pressure
- Seismic
- Air (no gas)
- CO detectors
- Gas detectors
- Theft



Smart Meter vs “Dumb” Meter



Why is it there?



Billing



House line test



Safety – Pressure, Flow Rate,
Temperature, maybe others



Communication

Where is the industry heading?

Only 2 manufacturers of diaphragm meters in US

At least 4 manufacturers of domestic (single path) ultrasonic meters

ANSI B109.6 should be published in 2023

Features vary by brand

Options for future features a possibility



Questions?