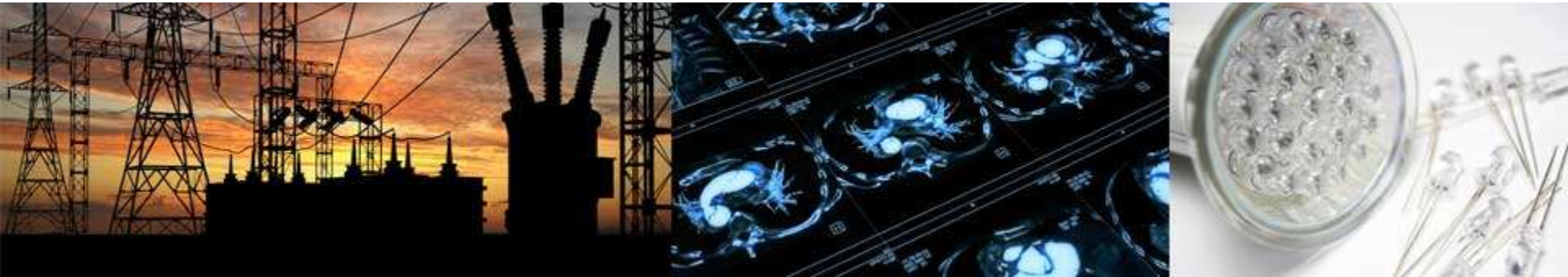


2015 NASEO Conference San Diego, CA

Commercial Energy Codes Innovations, Challenges and Solutions



The Association of Electrical and Medical Imaging Equipment Manufacturers





Energy Codes

3 Categories

 Envelope

 HVAC

 Electrical



Electrical Requirements

2 Sub Categories

 Lighting and Controls

 Electrical Power
Distribution Systems



LIGHTING

- 💡 Incandescent lamps are being phased out
- 💡 Magnetic ballasts no longer qualify as high efficacy lighting
- 💡 Light Emitting Diode (LED) luminaires are in widespread use
- 💡 Costs are coming down
- 💡 Color rendition vastly improved








Advanced Lighting Controls

- 💡 Occupancy Sensors - dual technology
- 💡 Dimmers - increased granularity (continuous dimming)
- 💡 Automatic Daylighting Controls
- 💡 Wireless (retrofits)
- 💡 Controlled areas now include outdoors, parking garages
- 💡 3rd Party Commissioning (Title 24)



Electrical Power Distribution Systems

-  Service Metering
-  Disaggregation (Separation) of Circuits
-  Mandatory Voltage Drop requirements
-  Controlled Receptacles
-  Demand Response

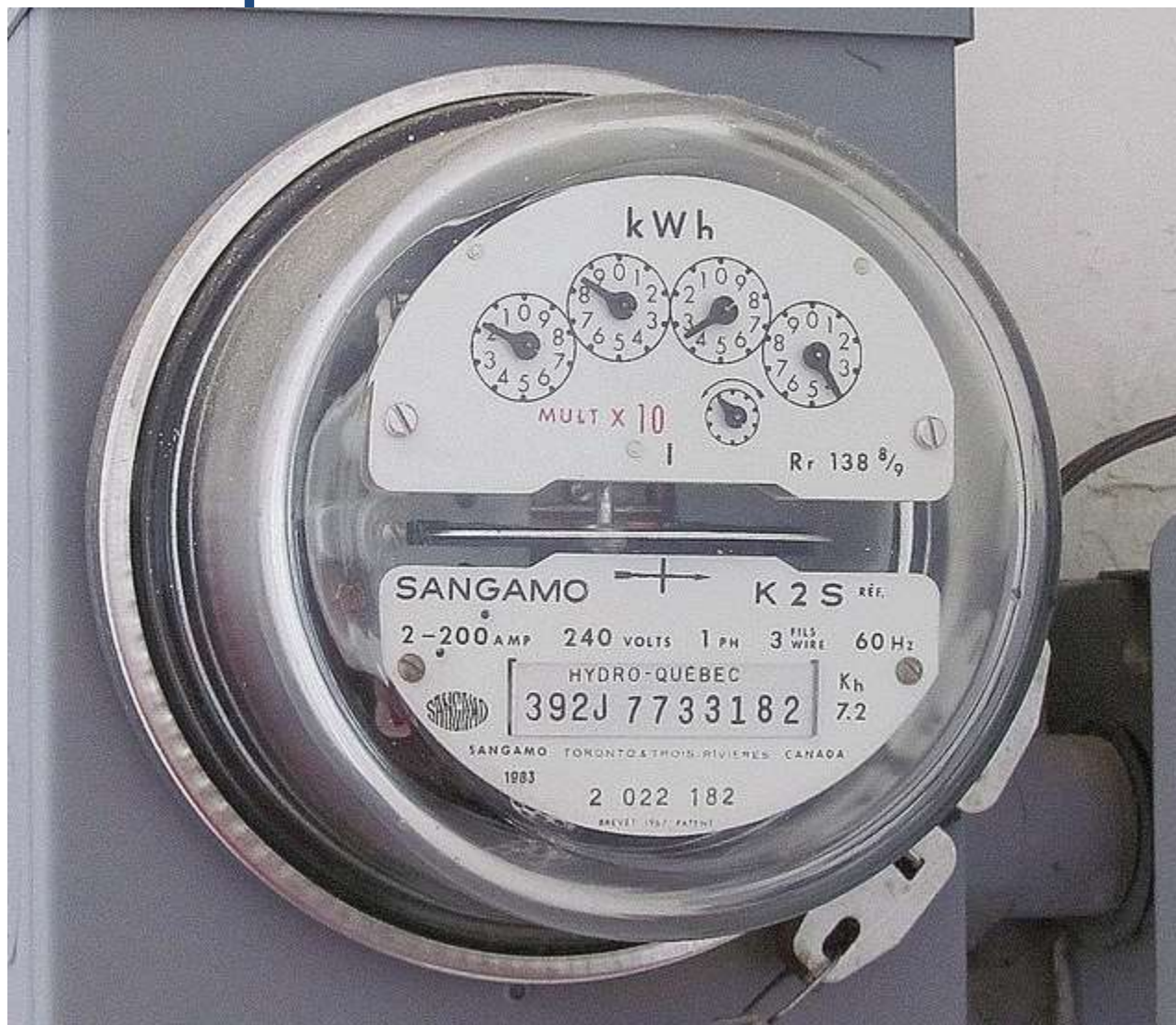


Utility meter meets this requirement if data access is provided to customer

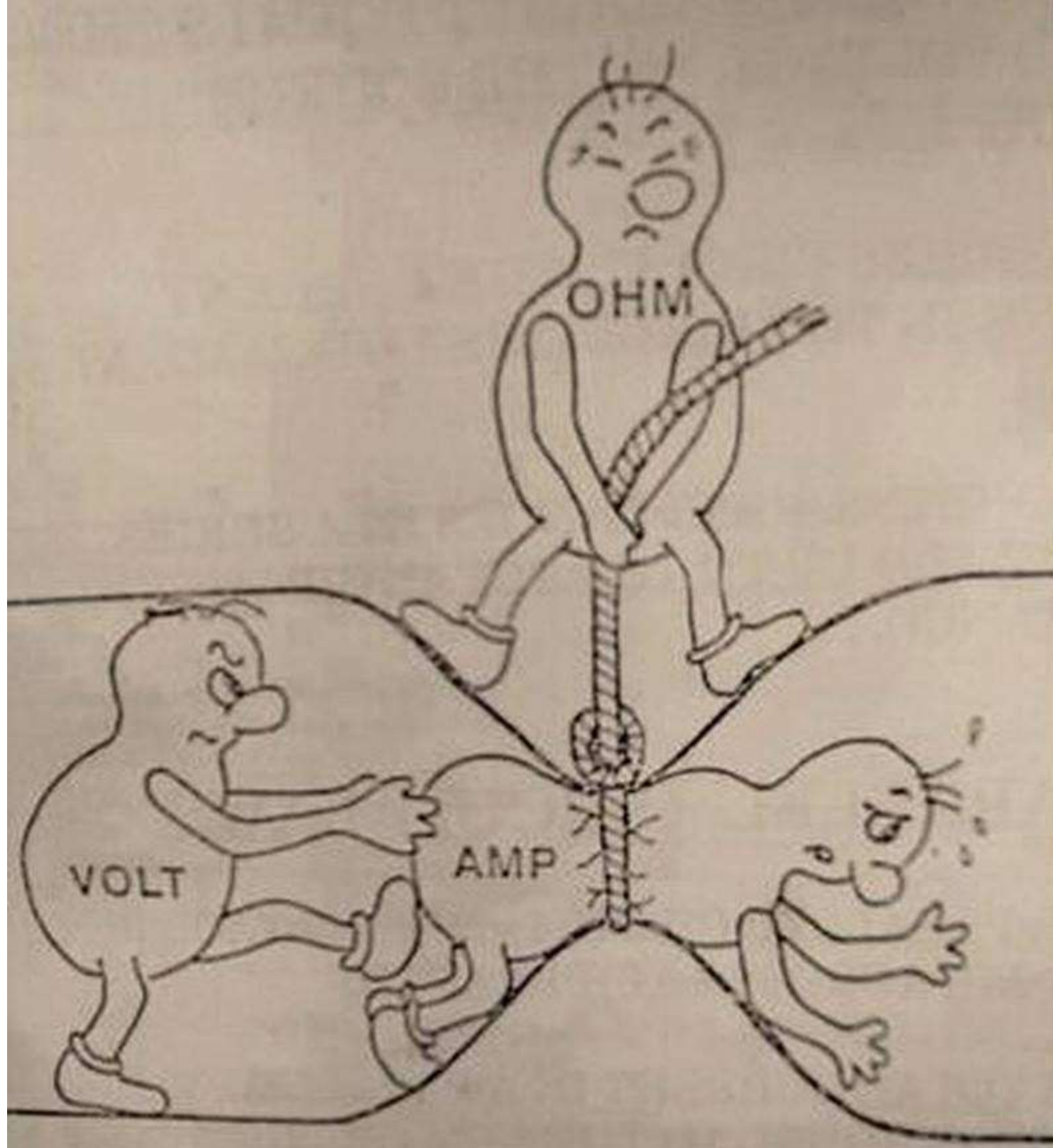




Electromechanical “old-style” meters do not meet this requirement









Marking Examples



One Controlled



Two Controlled



Motor & Transformer Efficiency

- 💡 Motors account for >40% of energy usage worldwide
- 💡 NEMA “Premium” motors & transformers
- 💡 Required to meet stringent energy efficiency standards
- 💡 New efficiency requirements for manufacture of all transformers on January 1, 2016





CHALLENGES

- 💡 Enforcement Mechanism
- 💡 Lack of Knowledge/Learning Curve
- 💡 Complexity of Systems
- 💡 Cost of Construction
- 💡 Clarity of Codes/Interpretations
- 💡 Resistance to Change



SOLUTIONS (TRAINING)

-  Include designers, installers, inspectors
-  Low/no cost
-  Convenient
-  Ongoing
-  CALCTP (California Advanced Lighting Controls Training Program)



SOLUTIONS

- 💡 Take enforcement seriously
- 💡 Time to adjust and learn
- 💡 Stakeholder participation
- 💡 Culture shift (takes time)
- 💡 Costs are decreasing (labor & products)
- 💡 3rd party inspections/commissioning
- 💡 Keep It Simple Stupid (KISS)



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