



# Guidelines to Assist Electrical Utilities in Trailing the Cycling of A/C Units to assist with peak load management





# BACKGROUND

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- Domestic air conditioning systems
  - major contributor to peak load
  - increasing penetration
- Network investments
  - expensive
  - take time to build

# OBJECTIVES

- Objectives:
  - A more reliable power supply this summer
  - An immediate reduction in repair costs within the trial area
  - A reduction in infrastructure costs in the long term
  
- KPI's
  - Speed 
  - Cost
  - Simplicity 
  - Fairness



# QUALIFICATIONS

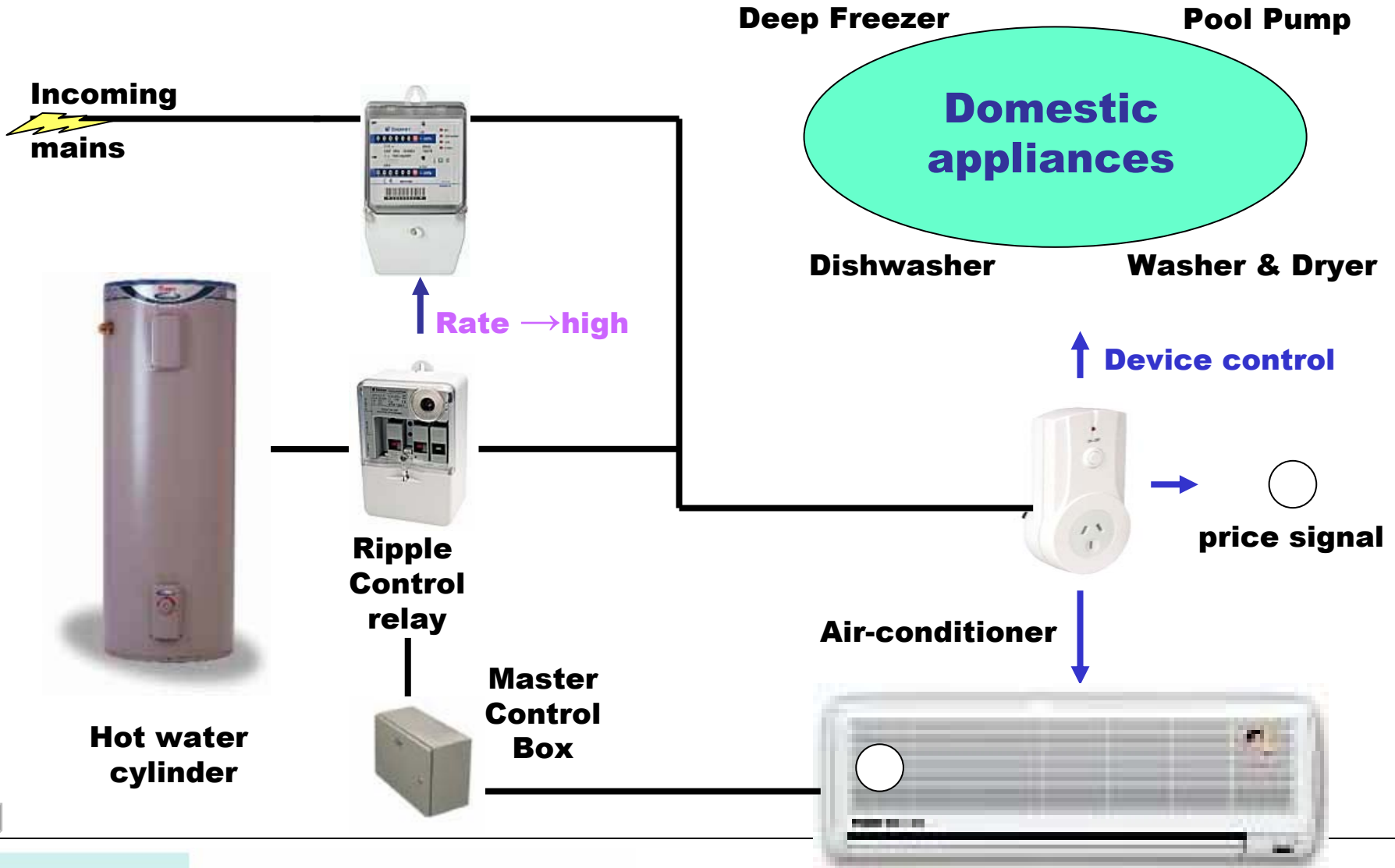
- Utilities ramp up to address long term solution
- Penetration of Domestic Air Conditioning set to rise to 60 % by 2007
- AREMA,
  - Leading HVAC Industry organization
  - Ongoing participation in relevant Legislative and Environmental issues
  - The ability to rapidly address new issues
- Enermet, solutions today 
  - Experts in DLM Systems
  - Capability of our people and Local commitment
  - Partnering with our clients and the Industry

# METHODOLOGY

- How do we propose to fix this:
  - Using the current network
  - Application specific device's
  - Working together
    - Utilities
    - AREMA
    - AGO
    - Enermet



# Ripple signal on mains



# BENEFITS



- Solutions
- Data
- Understanding
- Industry First
- Shareholder Confidence
- Space and Time



# COST



		SWITCHit	Relay	MCB single ph	MCB three ph
<b>Item</b>					
Saving per kW	\$	120	120	120	120
kW saved per unit (average)	kW	1.3	2	5	10
Network CAPEX saving per unit	\$	156	240	600	1200
Hardware:					
Cost of solution (1000pcs)	\$	80	16	250	270
Cost of solution (10'000pcs)	\$	60	16	200	220
Cost of solution (100'000pcs)	\$	50	16	150	160
Installation	\$	0	50	50	50
Cost of survey incentive	\$	25	25	30	50
Total cost	\$	105	91	330	370
<b>Net saving per unit</b>	<b>\$</b>	<b>51</b>	<b>149</b>	<b>270</b>	<b>830</b>
<b>Sample trial 2000 units</b>	<b>\$</b>	<b>102,000</b>	<b>298,000</b>	<b>540,000</b>	<b>1,660,000</b>
<b>1% of total accessible customer base</b>	<b>\$</b>	<b>1,530,000</b>	<b>4,470,000</b>	<b>8,100,000</b>	<b>24,900,000</b>

# Summary

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- The ability to control a meaningful percentage of the peak critical load within the trial region to ascertain its impact during summer peak times
- The ability to provide a basis on which to consider a full-scale roll out of this solution across the entire network