NV Energy
DSM Integration
Energy Efficiency ~ Demand Response

SWEEP Workshop
November 13, 2015
Integrated Demand Side Management

ENERGY EFFICIENCY: to reduce the amount of energy required to provide a product or service

DEMAND RESPONSE: a dispatchable demand side resource controlling customer end-use appliances for the purpose of peak load shaping.

INTEGRATED DEMAND SIDE MANAGEMENT (iDSM)
Types of Demand Response

- **Direct Load Control**
  - Load reduction enabled by devices that are directly controlled by the utility to turn on or off customer end-use loads

- **Price Responsive Load Control**
  - Load reduction that is achieved through the indirect control of customer end-use appliances based on a pricing signal sent by the utility
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<th>Program</th>
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| Commercial Incentive        | • Incentive program for commercial energy efficiency applications performed through new construction or retrofit  
                               • Non-profit agency grants                                                   |
| Energy Smart Schools        | • Incentive program targeted for school facilities to facilitate energy efficiency projects |
| Lighting                    | • Up-stream buy-down program to incentivize customers to use LED lighting    |
| High Efficiency AC          | • Duct test and seal  
                               • Early replacement or air conditioning retrofit components  
                               • HVAC tune ups                                                           |
| Pool Pump                   | • Incentive program for variable speed pool pumps                            |
| Refrigerator Recycling      | • Incentive program to encourage recycling of less efficient refrigeration units |
| Energy Assessments          | • Field energy assessments to aid customers in identifying demand side management opportunities |
| Home Energy Reports         | • Residential program providing energy information and energy tips and tricks |
| Energy Education            | • A program to provide energy information through participation in community events |
### DR and DER Programs Overview

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<th>Distributed Energy Resources Portfolio</th>
<th>mPowered Residential</th>
<th>Cool Share Residential/Small Commercial</th>
<th>IS-2 Agricultural</th>
<th>Commercial Programs</th>
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|                                       | • Deploy Advanced iDSM Home Area Network (HAN) solution | • Programmable Communicating Thermostats (Paging) | • Emergency DR at Sierra / Irrigation Pump Control | • EE&DR control integrated with a C&I Building Management System | • Industrial load reduction pilot to demonstrate fast DR and Operating Reserve strategies | • Pilot to control commercial customer standby generators | • Residential Energy Storage (Villa Trieste Pilot)  
• Net metering of homes with renewable generation  
• Reduce whole house daily peak consumption | • Agricultural irrigation pivot load control pilot |

**Total Available DR Capacity:** ~ 200MW
Customer Offerings

- Implementation Contractor
- Internal Services
- Customer Engagement
Working with City Sustainability Director to identify energy and demand savings at City’s top 15 buildings.

- Energy Assessments at all the building looking for energy efficiency and demand saving opportunities
- Smart thermostats, Connected demand limiting for rooftop units
- Controlled Lighting
Four primary groups will work as a team to deliver integrated packages of services to customers including elements of energy efficiency and demand response.