Utility R&D Lighting Round

2.24.20
Xcel Energy’s R&D Overview

• Product Development Budget of roughly $5.5M across all states (MN, CO, NM, SD, WI)
  – Used to conduct pilots and/or studies, support external research efforts, fund internal emerging tech research and develop programs

• Support research efforts of external organizations
  – Support requests for research grants
    • DOE grants and Minnesota CARD grants
  – NREL, Minnesota CEE, Slipstream are common partners
Turning R&D into Products

Emerging Tech and General R&D
- Both internal and external research
- Grant support and partnerships are common methods

Pilots and Studies
- R&D Efforts that align with strategic priorities
- Attempt to build a business case for market ready tech using PD Resources

Products and Programs
- Business case confirmed by pilot
- Filed as a product/program
Thermal Energy Storage

• Phase Change Material (PCM) installed in low temperature refrigeration facilities
• Goal is to shift refrigeration load to off-peak hours
  – Paired with software to shift load with 24 hours notice (needs to recharge overnight)
• PCM is engineered to phase change at optimal temperature
  – Can be adjusted based on needs