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**Business Item 2012-385:  
Authorization to Negotiate for  
Power Purchase Agreement and  
Land Lease for Solar Energy at  
the Blue Lake WWTP**

Environment Committee, Dec. 11, 2012



# Project Objective

- Develop solar energy system for clean electrical power, for which:
  - Power will be fully utilized by plant's current electrical demand
  - Cost (on a present value basis) breaks-even or better over project's lifecycle
  - Facility buffer land can provide beneficial use without compromising future needs of plant

# Procurement Approach

- Contract with private party to build 1.25 MegaWatt AC solar facility on Council land west of Blue Lake Plant
- Private party will design, build, own and operate facility (including financing capital costs)
- Council will contract to pay 25-year fixed rate for electricity delivered (Power Purchase Agreement)
- Used competitive RFP process to get best prices and technical proposals

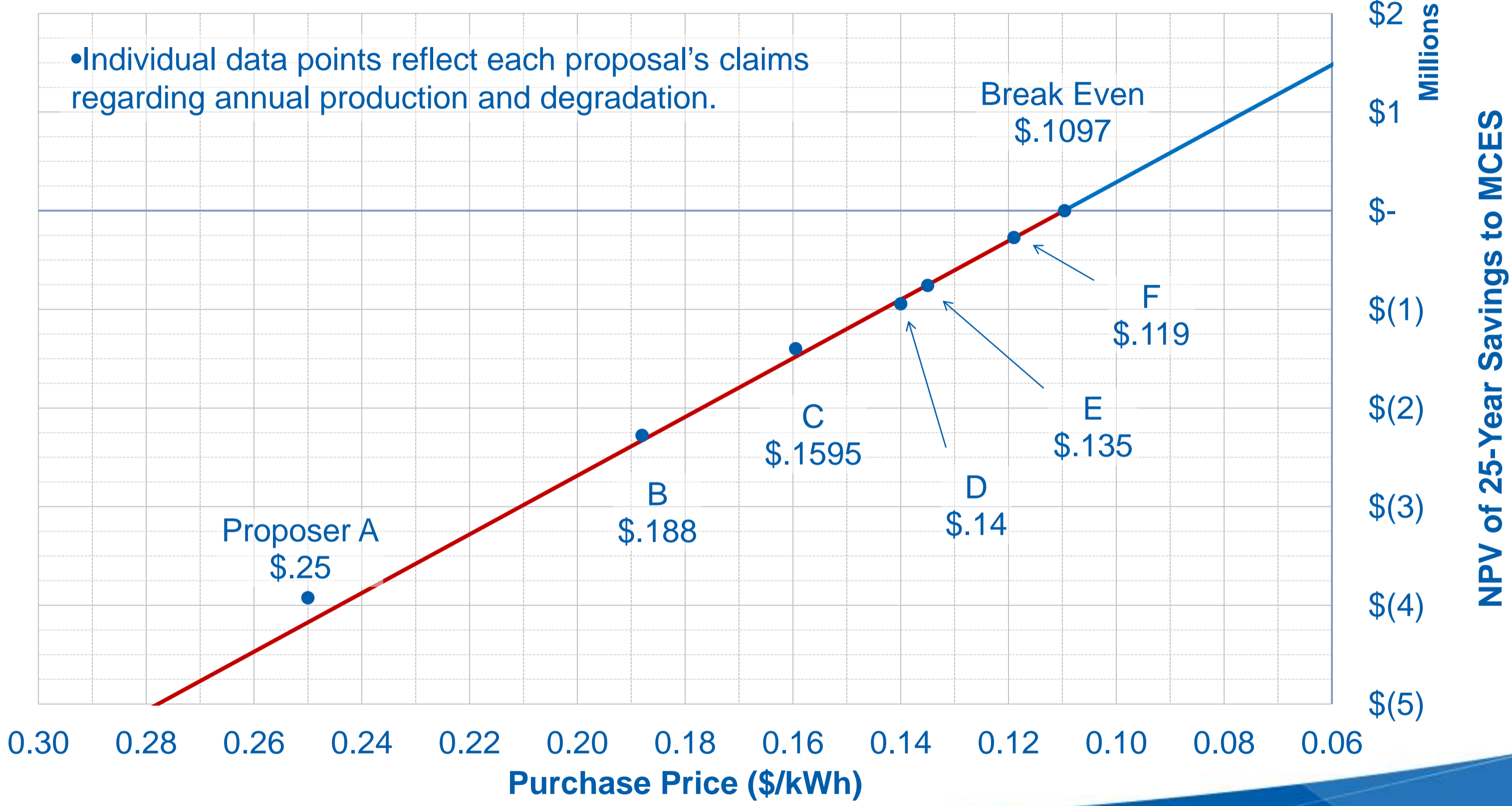
# Six Proposals Received

- OakLeaf Energy Partners
- Geronimo Energy
- Olson Energy Corporation
- Blue Lake Solar, LLC
- Ecos Energy
- Adolfson & Peterson Construction

# Financial Analysis Assumptions

- Avoided Cost (Xcel Energy)
  - \$0.0686/kWh in 2012 dollars (energy component only)
  - Escalated 5% annually from 2013-2020; 3% thereafter
- Solar Energy
  - 2 million kWh produced in first year and 0.5% annual degradation thereafter
  - Price for power as proposed (flat over 25 years)
- Net Present Value
  - 4% annual discount rate

# PPA Flat Price Analysis



Proposed PPA only, excludes impact of sales taxes, tariff changes & contingency.



# OakLeaf Energy Partners



- 1.54 MW<sub>DC</sub> fixed tilt
- TenKsolar or Sharp modules
- SMA Sunny Central inverters
- Schletter racking
- Deck monitoring system
- 1965 MWh/yr
- 0.5% annual degradation

# Next Steps

## Contract with Vendor

- Negotiate with OakLeaf:
  - PPA terms
  - Exact site
  - Buyout terms
  - Consider financial deficit options

## Search for financial help

- Need only 0.5 - \$1 million to break even
- RDF grants; smaller projects received \$2 million

## Settle Outstanding Issues

- Interruptible tariff changes
- Solar demand credits for Standby Tariff



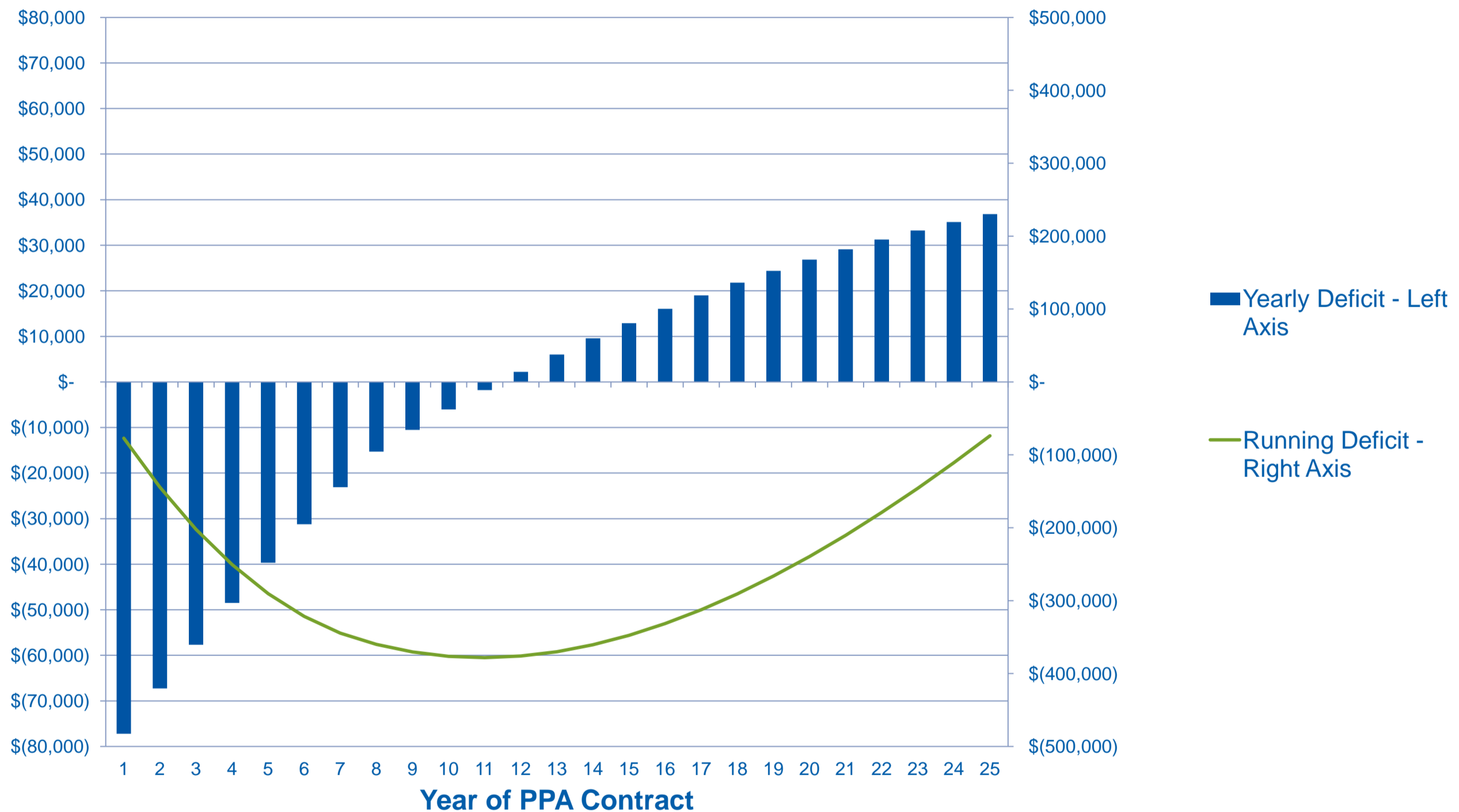
# Motion:

Authorization to Negotiate for Power Purchase Agreement and Land Lease for Solar Energy at the Blue Lake WWTP, and Apply for and Enter into Grant Agreement for the Project

Questions?

# OakLeaf Energy Partners

## NPV difference between PPA price and Xcel price



Note: Excludes tariff changes & contingency

# Benefits of Solar to Council

- Supports MCES Mission
- Supports Governor's Administration initiatives on energy
- Provides beneficial use of buffer land around plant
- Provides price stability of some energy costs
- Adds to Council's leadership image with public
- Contains salvage value as some infrastructure likely reusable after lifecycle
- Provides future opportunity to leverage facility

# General Benefits of Solar

- Creates clean, renewable energy with no air emissions
  - Uses little to no water
  - Supports national energy independence
- Diversifies energy sources, which improves reliability and energy independence
- Supports Next Generation Energy Act of 2007
  - “...the State has a vital interest in...the development and use of renewable energy”
  - Goal: “25 percent of the total energy used in the State...derived from renewable energy resources by the year 2025”