DEC Energy Overview
for
Lancaster County Commissioners
Dan Dixon, P.E., DEC Project Manager

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District Energy (DE) is the local production and distribution of thermal energy and comprises of two main elements*

- A central energy plant containing equipment that produces thermal energy in the form of steam or hot water for heating, or chilled water for cooling. The central plant may also incorporate combined heat and power (CHP) units which produce electricity and useful thermal energy.
- A network of pipes to distribute the thermal energy from the central plant to the buildings. This network of underground pipes can carry hot water, steam, or chilled water.

DE is a long-term investment to improve the physical infrastructure of the community it serves*

DE systems are commonly found at universities, downtown business centers, hospital campuses, and industrial parks.

Boilers add heat to water by burning natural gas or using electrical resistance to create hot water for building heating. These units are similar to your hot water heater at home.
Chillers remove heat from water to create chilled water for building cooling.

Typical DE Cooling System

Chillers

Cool Air into Building

Heat Exchanger

Evaporator

Condenser

CW Pump

Chilled Water Return (CWR)

Chilled Water Supply (CWS)

DEC Energy Side

Customer Side

Warm Air Leaving

Outside

Cooling Tower

DEC Energy

WHM CUP

WHM JPA

Customer
District Energy Corporation (DEC) is a nonprofit corporation and City of Lincoln and Lancaster County inter-local agency organized pursuant to

- The Nebraska Nonprofit Corporation Act
- The Nebraska Interlocal Cooperation Act

DEC Energy is a political subdivision created and existing under the laws of the State of Nebraska
DEC Energy was formed in 1989 by the City of Lincoln and Lancaster County for purposes of:

- Constructing
- Financing
- Furnishing
- Operating thermal energy facilities and related services for providing heating and cooling to governmental entities

Initiated because of a County project to build a then new detention facility at 605 South 10th Street
Governance

- DEC Energy is governed by a 5 member Board of Directors
  - 2 county commissioners
  - 2 city representatives
    - Council member
    - Mayor appointee
  - 1 LES Board member

- Board members serve two-year terms and are eligible for reappointment
Pursuant to a Management Agreement between LES and the Corporation, LES manages DEC’s systems and affairs:

- LES is responsible for the overall operation, maintenance and administration resulting in the equivalent labor of 7 full time positions for 2017.
- As of June 1, 2017, 20 year term.
- LES is not responsible for any liabilities of the Corporation, including its indebtedness, and the Corporation has agreed to indemnify LES.
Why does LES manage DEC?

- LES was instrumental in its creation
- Synergy between LES and DEC Energy allows for mutual benefits
- Focus on reliability, efficiency, sustainability, robustness, value justified on life cycle cost analysis; profits are not a motive for either LES/DEC Energy
- LES had experience operating a Combined Heat & Power Plant in downtown Lincoln
- Aligns with LES Vision and Mission Statements
District Energy Corporation formed 12/15/1989

Initial District Energy Study Developed for Historic Haymarket Area West of Downtown Lincoln 1986

District Energy Idea is Generated for Lincoln 1984

City County Thermal Facility Commissioned 06/1991

State Thermal Facility Commissioned 1999

SW 40th Thermal Facility Commissioned 07/2012

Energy Service Agreement signed with LES 09/2013

West Haymarket CUP Commissioned 10/2016

DEC Timeline
DEC Locations within Lincoln, NE

- SW 40th Thermal Facility
- WHM CUP
- CC Thermal Facility
- State Thermal Facility
DEC Locations within Lincoln, NE

14th St.  
Rokeby Rd.  
Hwy 2  
84th St.
Square Footage Served Timeline

DEC Customer Timeline
Total Square Footage of Buildings Served by Each DEC plant
(total at end of each year)
DEC has historically issued Tax-Exempt bonds to support capital construction funding

- DEC is rated AA+ by both Fitch Ratings and Standard & Poor’s

- DEC receives a high bond rating due to all financings being secured by the Energy Services Agreements with governmental entities.

- DEC currently has $37.7M in outstanding debt
DEC has Energy Services Agreements with:

- County/City
- County
- Lincoln Electric System (plant currently under construction)
- State of Nebraska
- West Haymarket JPA
  - The West Haymarket JPA sells services to customers in the JPA “footprint”

Energy Services Agreements:

- Obligate customers to pay all debt associated with DEC, regardless of whether they continue to take service.
- Outline how customer rates will be designed and how bills will be rendered.
- Provide additional detail regarding the character of service and roles and responsibilities of DEC and the customer.
DEC adheres to Cost of Service principles for rate design

Rates are designed to:
- Be fair, reasonable and nondiscriminatory
- Collect funds needed to operate the utility and provide sufficient reserves

Rates are not designed to:
- Generate a profit for any stakeholders
- Create cross-customer subsidization

Charges generally include 4 rate components:

- **Demand Financing** – fixed monthly rate which recovers debt payments
- **Demand Other** – fixed monthly rate which recovers operations, maintenance, administrative and debt service coverage
- **Heating Commodity Rate** – fixed rate per mMBTU
- **Cooling Commodity Rate** – fixed rate per mMBTU

Rates are adopted by the DEC Board of Directors in conjunction with the annual budget process
Financial Metrics and Target

- Total Original Cost of Plant in Service > $40M
- Total Annual Revenue ~ $5.8M
- Debt Service Coverage Target = 1.10x – 1.20x
- Liquidity Target = 60-90 Days Cash on Hand
Thank You