Citizen Potawatomi Nation

John A. Barrett – Chairman
Linda Capps – Vice Chairman
D. Wayne Trousdale – Secretary/Treasurer
Tribal Leadership

John A. Barrett
Chairman

Linda Capps
Vice Chairman

D. Wayne Trousdale
Secretary/Treasurer
Located in Shawnee, Oklahoma

- Citizen Potawatomi purchased allotment lands consisting of a small 900 square mile parcel
- The largest part of the Potawatomi made their way to the new reservation in the 1880s.
Humble Beginnings
CPN Headquarters

The Tribal Administration Building houses:

- Administrative Offices
- Enterprise/Tribal Accounting
- Tribal Rolls
- Employment and Training
- Cultural Resources
- Child Development Center

- Office of Self Governance
- Title VI Elderly Program
- Human Resources
- Purchasing
- Networking
- Occupied February 1998
Economic Impact

2004 Community Impact = $117,343,847
2003 Community Impact = $84,979,660
2002 Community Impact = $73,087,828
2001 Community Impact = $56,642,420
2000 Community Impact = $48,006,270
Tribal Court

- In operation since 1986
- Seven Supreme Court Justices
- Three district court judges
- One prosecuting attorney
- One public defender
- One court clerk
- Jurisdiction over any Citizen Potawatomi - anywhere
- Civil jurisdiction over non-Indians.
Cultural Resources

• Preserve Potawatomi Culture
• Language Classes
• Historic Preservation
• Archaeology
Jurisdictional Programs and Activities

Health Complex
Clinic ~ Pharmacy ~ CHRs
Contract Health ~ Optometry
Dental ~ Audiology
Behavioral Health ~ Substance Abuse
Child Development Center

- One of Only Two Two-Star Child Development Centers in Pott. County
- Current Capacity - 405
First National Bank & Trust Co. of Shawnee

Main Bank
With solid earnings performance for the past six years, First National Bank is the fastest growing bank in Shawnee and the community's **only** locally owned bank.
FireLake Casino
FireLake Farms

2,500 Acres (Approx.)
2 Full-time employee
Best suited for agriculture production
  • Hay
  • Horticultural Produce
  • Field Crops
Oklahoma Weather

Irrigation system for expansion of horticulture production.
CPN Housing Authority

- Emergency rehabilitation loan program
- Down payment and closing cost assistance grant
Geo Thermal Pond
Geo Thermal Pond
Geo Thermal Pond
Geo Thermal Pond
Cultural & Heritage Center

52,000 Square Feet
Firelake Discount Foods

✧ 84,000 Square Feet
FireLake Discount Foods
Overview of Project

Features to be Implemented

- Integration or Sharing of HVAC Loads
- Ground Water Development for Water Source Heat Pumps
- Heat Recovery from FDF (Grocery Store) as Energy Source for
  - Green Houses
  - Other systems in the future
Integration or Sharing HVAC Loads

Integrating component be a water-based system consisting of a combination of
- ponds, water supplies,
- Heat source from FDF (grocery store) evaporative condensers

◆ Buildings include
- FDF (large source of heat from A/C & Refrigeration heat rejection),
- Casino (100 of 298 tons cooling with pond source)
- and three greenhouses (in-floor heating with evaporative condenser heat; cooling with swamp coolers)
FireLake Golf Course

Originally water was pumped from a well 24 hrs daily at 55 gpm only to water the golf course. This water is now being used to also supply water for the adjacent new Heritage Center 100 ton GHP systems.
Ground Water Development For Ground Source Heat Pumps

- Apply Success of new Heritage Center
  - Small pond fed with water pumped from aquifer
  - 100 tons cooling with a 77 degree maximum temperature returning to heat pumps
- Include retention pond feature
FireLake Discount Foods

A large source of heat energy: Potential to supply a car wash, or greenhouses, or laundry or similar business
A maximum of 6437 MBtuh is rejected from FDF evaporative condensers which can be utilized.

Water heated through plate frame heat exchangers in contact with refrigerant is pumped through pipe in floor of greenhouses to heat the space.
FDF Evaporative Condensers
A designates Evaporative Condenser associated with refrigeration Rack A. It supplies heat to the 3 greenhouses shown.

Plate-frame HX separates refrigeration from the lines to greenhouses.
Table 3. FireLake Discount Food Store Evaporative Condenser Rejection Heat Rates

<table>
<thead>
<tr>
<th>RECOLD Evaporative Condenser</th>
<th>Condensing Temperature, °F</th>
<th>Total Rejection Heat, MBtuh</th>
<th>% Load</th>
<th>Leaving Water Temp., °F</th>
<th>Entering Water Temp., °F</th>
<th>Flow Rate, GPM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rack A JC200</td>
<td>90</td>
<td>1242</td>
<td>19.3</td>
<td>87</td>
<td>70</td>
<td>146.2</td>
</tr>
<tr>
<td>Rack B JC165</td>
<td>90</td>
<td>866</td>
<td>13.5</td>
<td>87</td>
<td>70</td>
<td>101.9</td>
</tr>
<tr>
<td>Rack AC Chiller #1 JC200</td>
<td>90</td>
<td>2164</td>
<td>33.6</td>
<td>87</td>
<td>70</td>
<td>254.6</td>
</tr>
<tr>
<td>Rack AC Chiller #2 JC200</td>
<td>90</td>
<td>2164</td>
<td>33.6</td>
<td>87</td>
<td>70</td>
<td>254.6</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>6437</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Assumed Temperatures

Resulting Flow Rate
Summary: Networking Pond, Greenhouses and Three CPN Facilities

- Pond provides coupling among all facilities
- Greenhouses networked with FDF evaporative condensers and pond (6437 MBtuh heat is normally wasted from the evaporative condensers)
- Provides a sustainable business venture:
  - produce is raised in greenhouses
  - sold by the FDF (FireLake Discount Food) Store
  - greenhouses gives employment for tribal members
- GHP systems in Casino saves energy, has low cost Operation & Maintenance.