LOWER BRULE SIOUX TRIBE

Energy Planning Department
Bill Ziegler Jr.
Director
General Information

- **Demographics**
  - 2,600 Enrolled Members
  - 1,200 Resident Members
  - 230,000-acre reservation
  - High unemployment rate
Energy Overview

- **Energy Demand**
  - **Residential Electric Consumption 2000**
    - 9 cents per kWh
    - $1,100 per household/year
    - 4 million kWh
    - $400,000
    - 7 million lbs. CO2 from Electricity
  - **Commercial Electric Consumption 2000**
    - 3 million kWh
    - $230,000
    - 6 million lbs CO2 from Electricity
Energy Overview Continued

11/25/2003 Energy Planning Department
Energy Supply

- Tribal Energy Supply
  - Wind Data
    - Approximately 2 years worth of Data on 2 sites
    - 18 Mph at selected site
    - North/North West wind direction
  - Hydro Capability
    - Landscape is favorable for such a development project. Adjacent to river, Natural pond areas
    - Title 6 Act; restored lands taken under pick-sloan Act
Project Description

- Test the feasibility of blending Wind power and Hydro power to produce “FIRM” power
  - Hydro would utilize Pump-back water storage reservoir and hydroelectric turbines
  - Location is very conducive to use of both technologies, all relevant basics exist on site:
    - Wind: Class 6
    - Within 1/8 mile of phase 3 transmission lines and interconnection point
    - All land is owned by the LBST, Easily accessible

Competitive Analysis
Project Description Continued

- Hydro: Landscape is very conducive
- Natural ponds and drainage ditches
- Title 6 Act
Project Description Continued

#### Feasibility Tests

- Verification of Wind Data
- Rights to divert water
- Cost, technical and physical feasibility of constructing a reservoir that is sufficient
- Investigate & evaluate integrated circuitry of technologies: wind, hydro turbines, pumps & discharge turbines
Project Description Continued

- Potential increased marketability of “FIRM” power
- Access of the Grid, interconnection requirements, and transmission
- Economic feasibility
- Political feasibility
- Environmental benefits/impacts & permitting process
Project Description Continued

- Corporate Structure
- Business and Financing Plan
- Operations, Maintenance and Training Planning
- Infrastructure Development Planning
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The End……

Just the beginning