

Distributed Generation Work Group Meeting

**D/FD
OPERATING**



**Services
LLC**



McKee Run
Generating
Station



Van Sant
Generating
Station

Feb 4, 2004

**Safety
Begins
Here.**



D/ED OPERATING SERVICES

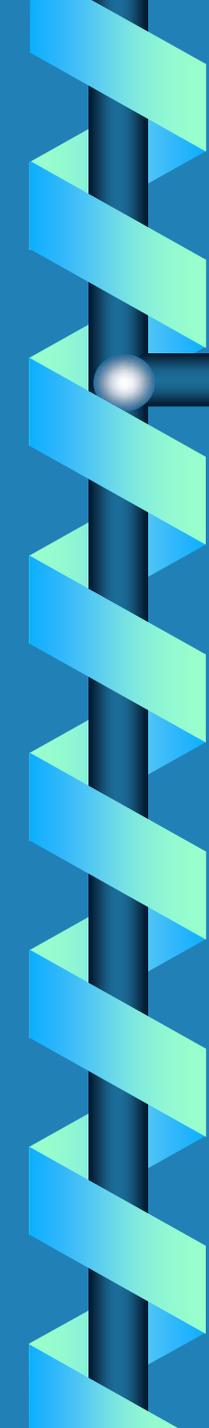
ADMINISTRATION

7:30am - 3:30pm



RECEIVING

7:00am - 3:00pm



Our Business

We are a services company providing Operating and Maintenance expertise to the McKee Run and Van Sant Generating Stations.

We enjoy the privilege of applying our high standards of excellence in safety, environmental, and electrical generation know-how to maximize the reward for our client.

Our Facility

Ω McKee Run Generating Station



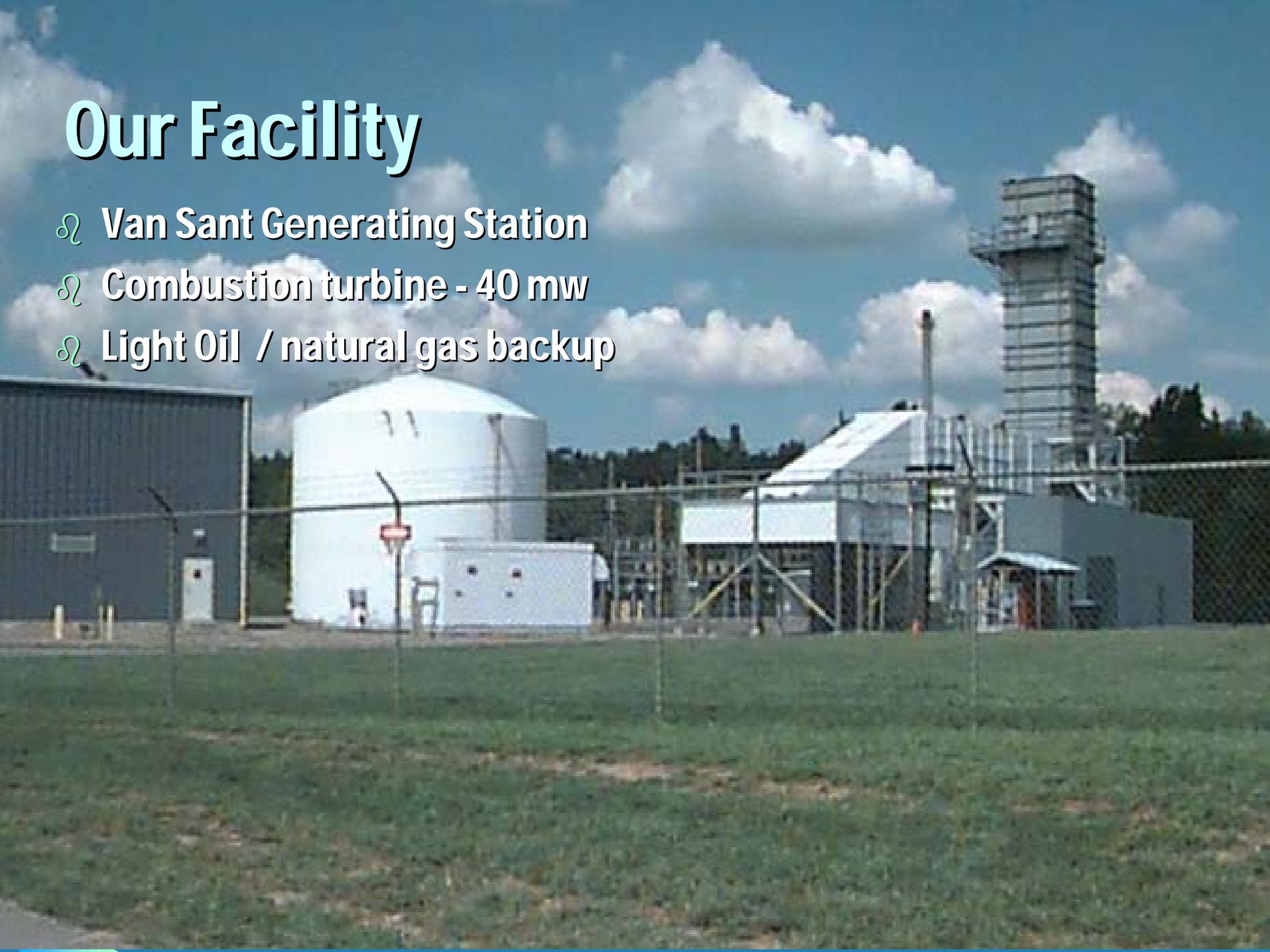
Our Facility

The image shows a large industrial power plant facility. In the foreground, there are several sets of parallel metal tracks or rails running across a grassy area. To the right, a paved road is visible. The main building is a large, multi-story structure with a mix of brick and metal siding. Two prominent smokestacks are visible, one on the left and one on the right, both with white and red sections. The sky is clear and blue. The overall scene is an industrial power generation site.

- Ω Units 1/2 built in 1960/61 - 17 mw each
- Ω Unit 3 built in 1974 - 103 mw
- Ω Heavy oil / natural gas backup
- Ω 36 people - manned 24 by 7

Our Facility

- Ω Van Sant Generating Station
- Ω Combustion turbine - 40 mw
- Ω Light Oil / natural gas backup

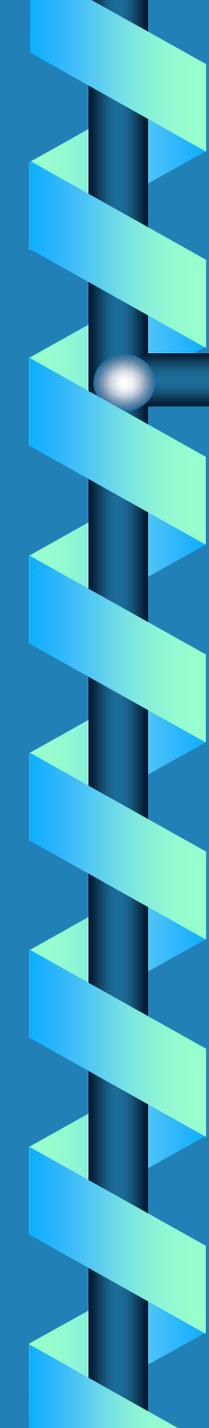


Electrical System Reliability

- ∩ Generation must meet demand
- ∩ Generation supports transmission
- ∩ Transmission delivers generation
- ∩ Entire system is dependent on each component being available and reliable on a continuous uninterrupted basis

PJM Independent System Operations and Control Area





Ω **PJM At a Glance**

Ω **PJM Interconnection plays a vital role in the U.S. electric system. As a regional transmission organization (RTO), PJM:**

Ω **Coordinates the movement of electricity through all or parts of Delaware, Maryland, New Jersey, Ohio, Pennsylvania, Virginia, West Virginia and the District of Columbia**

Ω **Ensures the reliability of North America's largest centrally dispatched control area**

Ω **Operates the largest competitive wholesale electricity market in the world**

Ω **Plans generation and transmission expansion to ensure reliability**

Ω **Operates independently and neutrally**

Ω **Provides real-time information to its members/customers to support their decision-making**

Ω **The scope of PJM's operations:**

Ω **Population - more than 25 million**

Ω **Generating sources - approximately 660, with diverse fuel types**

Ω **Generating capacity - more than 76,000 megawatts**

Ω **Peak demand - 63,762 megawatts**

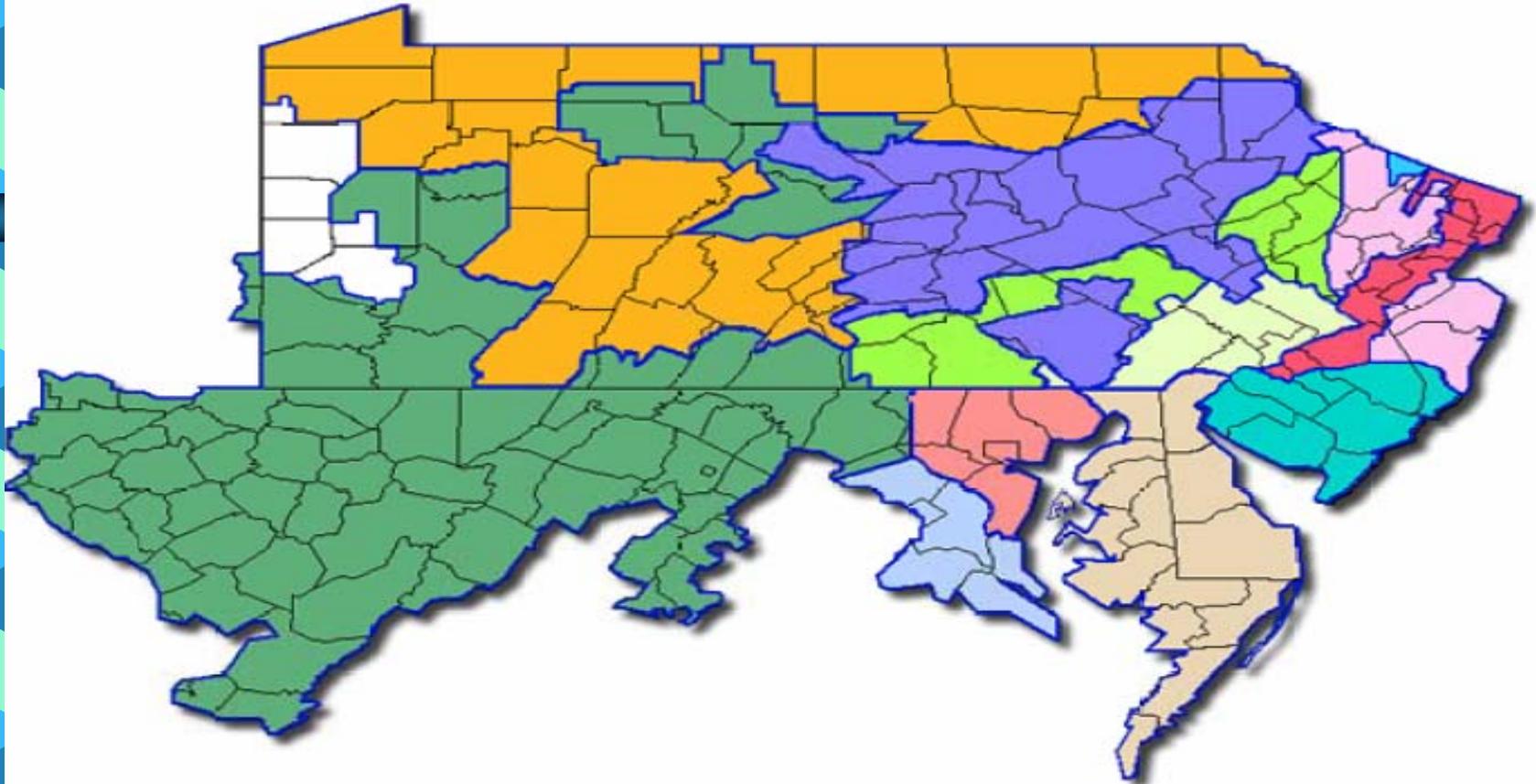
Ω **Annual energy delivery - 329 million megawatt-hours**

Ω **Transmission lines - 20,000 miles**

Ω **Members/customers - more than 250**

Ω **Cumulative billing - more than \$17 billion since 1997**

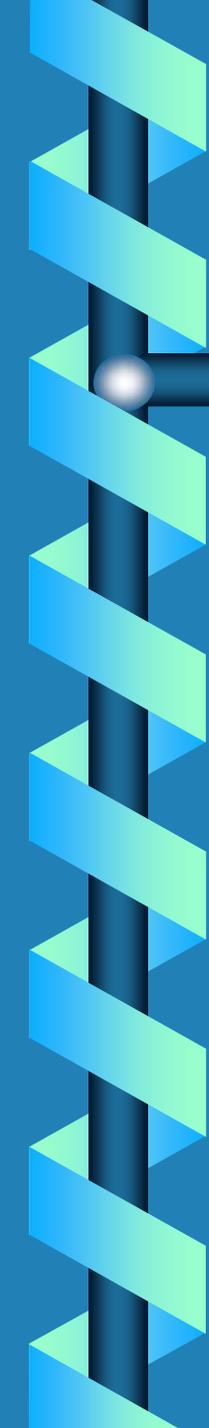
PJM Distribution Companies and Areas



- | | |
|--|---|
|  Delmarva Power & Light |  Public Service Electric & Gas |
|  Atlantic Electric |  Allegheny Power |
|  Pennsylvania Electric |  Peco Energy |
|  Metropolitan Edison |  Pennsylvania Power & Light |
|  Jersey Central Power & Light |  Potomac Electric Power |
|  Baltimore Gas & Electric |  Rockland Electric |

Predicting The Unpredictable: Power Generation

- ⌚ **Each Day PJM Notifies bid Generator as to the Status of Their Bid Units..... A day Ahead**
- ⌚ **Generating Companies Bid In Their Generation Capacity Every Hour Of Everyday..... A Day Ahead**
- ⌚ **Factors That Affect A Generating Unit's Run Status**
 - **Transmission Reliability/ Constraints**
 - **Capacity vs Demand**
 - **Electricity Demand (How many megawatts will be needed?)**
 - **Where will those mw's be needed?**
 - **Cost per Generating Unit (peeking order)**
 - **Equipment Failures (Everything Manmade Will Break)**
 - **Weather (sudden storms, hotter or colder than predicted, down power lines, lighten strikes, etc)**



DG Where Does It fit In?

∞ Emergency Situations

- Black Outs/Brown Outs
- Uninterruptible Demand for Industry
- Life Sustaining Needs (hospitals, poultry)

∞ Load Sharing to Support System Reliability and/or to Reduce Cost

The End

