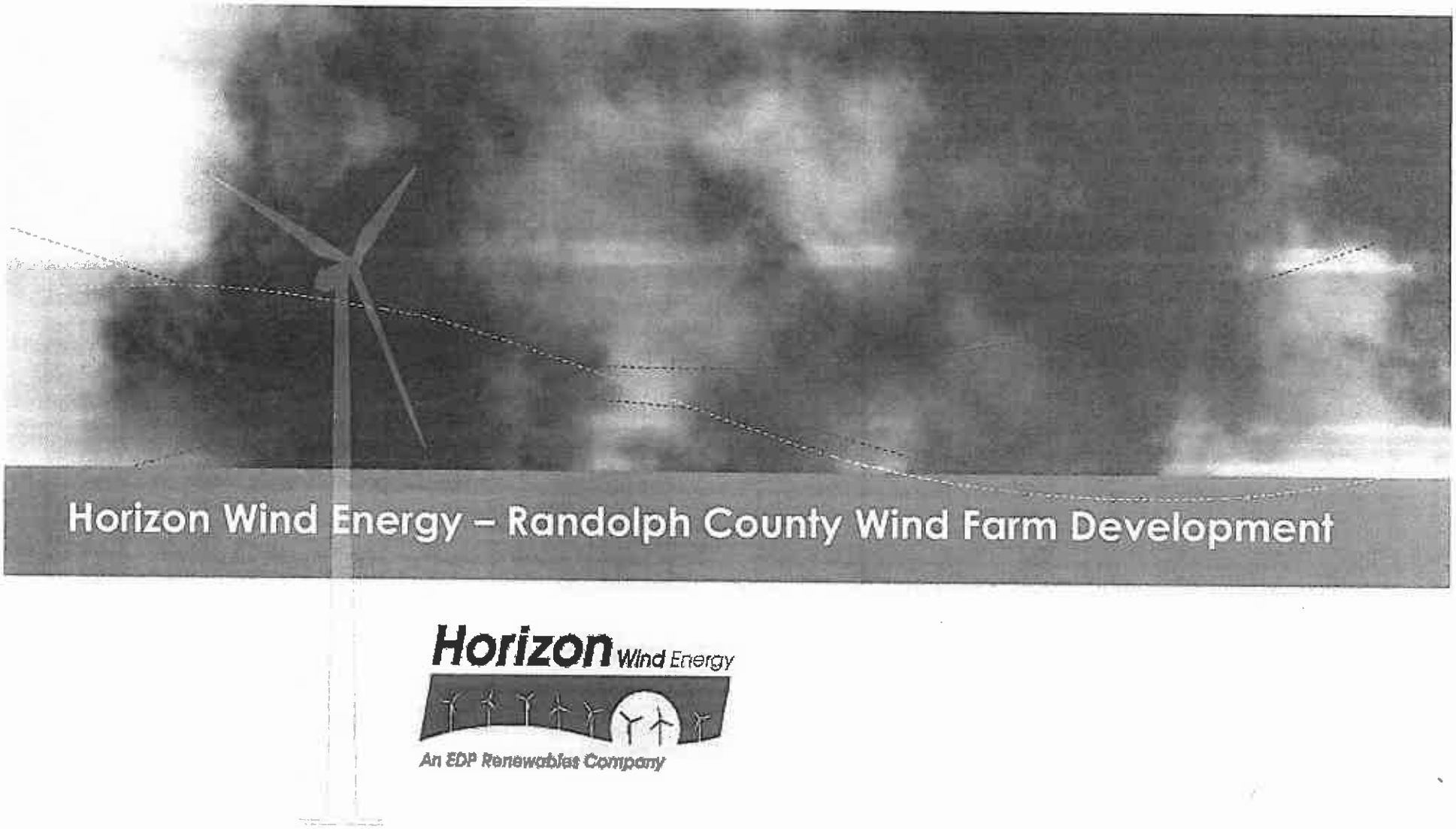


# Horizon Wind Energy – Randolph County Wind Farm Development

Horizon Wind Energy
An EDP Renewables Company

Landowner Update Meeting
Union Junior-Senior High School
February 3 and 4, 2010, 7-9PM
Ryan Brown, Project Manager

Horizon Wind Energy
An EDP Renewables Company

# Tonight's Schedule

7:00: Presentation
8:00: Q&A
9:00: Go Home

Please feel free to get up at anytime for pie and coffee

# Our Horizon Team

Horizon Wind Energy
An EDP Renewables Company

**Development**

Ryan Brown, Project Manager
Paul Cummings, Project Developer
Erin Bowser, Project Manager
Beth Oblon, Indianapolis Office Manager
Betty Halberstadt, Land Agent
Andy Halberstadt, Land Agent

**Engineering**

Evelyn Zapata, Civil Engineer
Mallur Satyanarayan (Satya) , Electrical Engineer

**Project Management**

John Stone, Director of Project Management
Nathan Biediger, Project Manager

# Tonight's agenda

Horizon Wind Energy
An EDP Renewables Company

- Brief refresher on Horizon Wind Energy and the project
- Project status update – What's happened and what's going on now
- What's next, what you can do, and Q&A

# Horizon Wind Energy Overview

Horizon Wind Energy
An EDP Renewables Company

## Who We Are

- Horizon Wind Energy develops, constructs, owns and operates wind farms throughout North America
- Owned by EDP Renewables, a leading renewable energy company that designs, develops, manages and operates power plants that generate electricity using renewable energy sources
- Headquartered in Houston with over 20 offices across the country
- Employs over 300 people
- Has developed over 3,400 MW of wind farms and currently operates over 2,800 MW
- Ranked third in the U.S. in terms of total installed capacity (as of July 2009)

# Horizon Wind Energy – the people

Horizon Wind Energy
An EDP Renewables Company

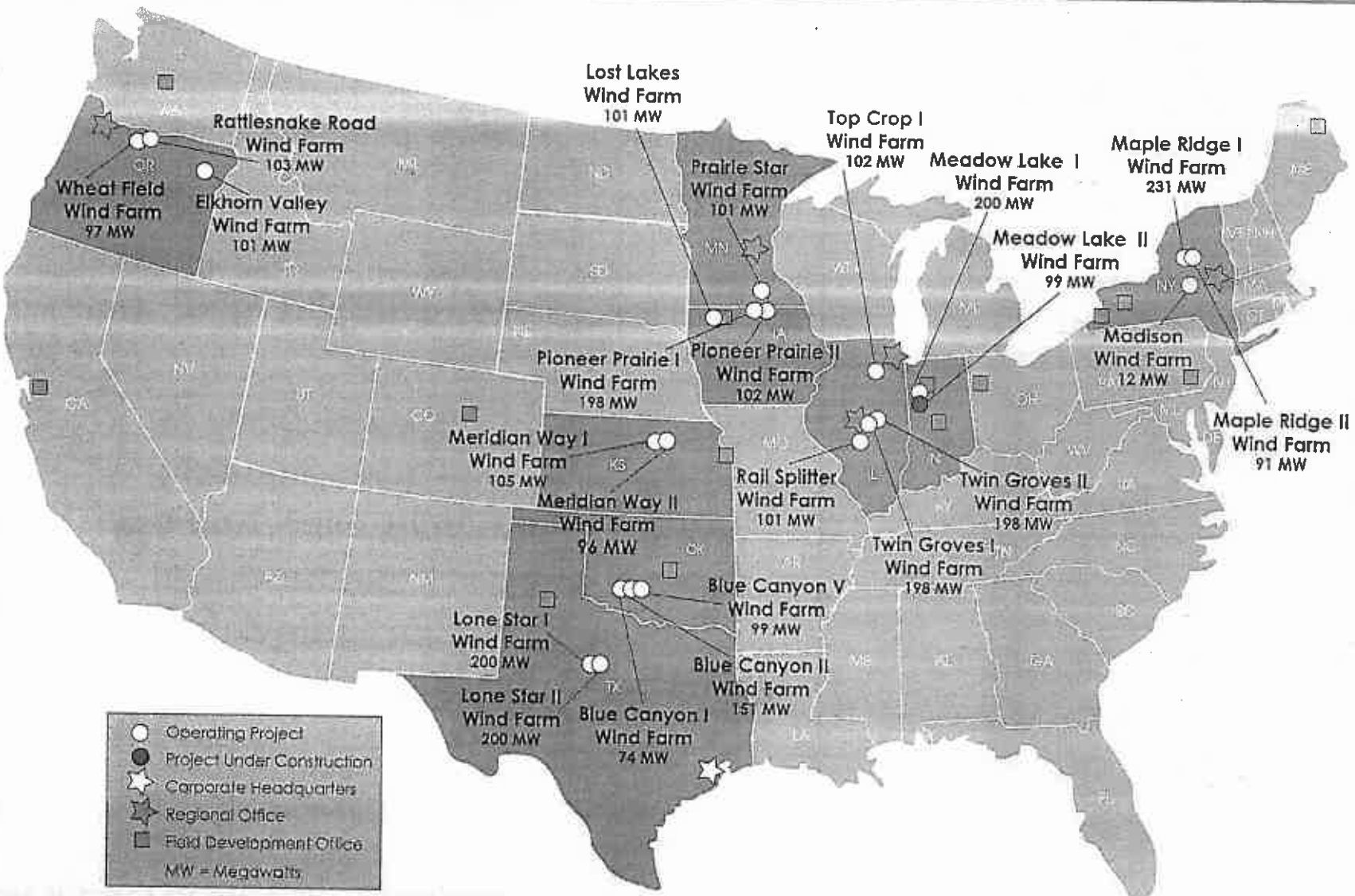
Originally started and funded in 1999 by the Zilkhas, a father and son team based in Houston, TX

Horizon was soon creating regional offices to be on the ground and working with our landowners and stakeholders all across the country

All of Horizon's offices are in big rooms with no cubicles or offices. We believe in open and frank exchange of information across the company and teamwork

# Horizon Wind Energy Geographical Presence

Horizon Wind Energy
An EDP Renewables Company



# Recent Indiana Activity

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## Indiana

**Meadow Lake Wind Farm – 199.65 MW**

- Completed October 2009
- 121 Vestas V82 (1.65 MW) Turbines

**Meadow Lake Wind Farm II – 99 MW**

- Expected completion June 2010
- 66 Acciona AW82 (1.5 MW) Turbines

-Over **$600 million** in investment in White County Indiana in 2009!

-Enough power for over 90,000 homes

-Over $6 million in economic development payments are being made to White County for Meadow Lake 1&2

**Meadow Lake**
**Indiana, 200 MW**

# Proposed Randolph County Wind Farm

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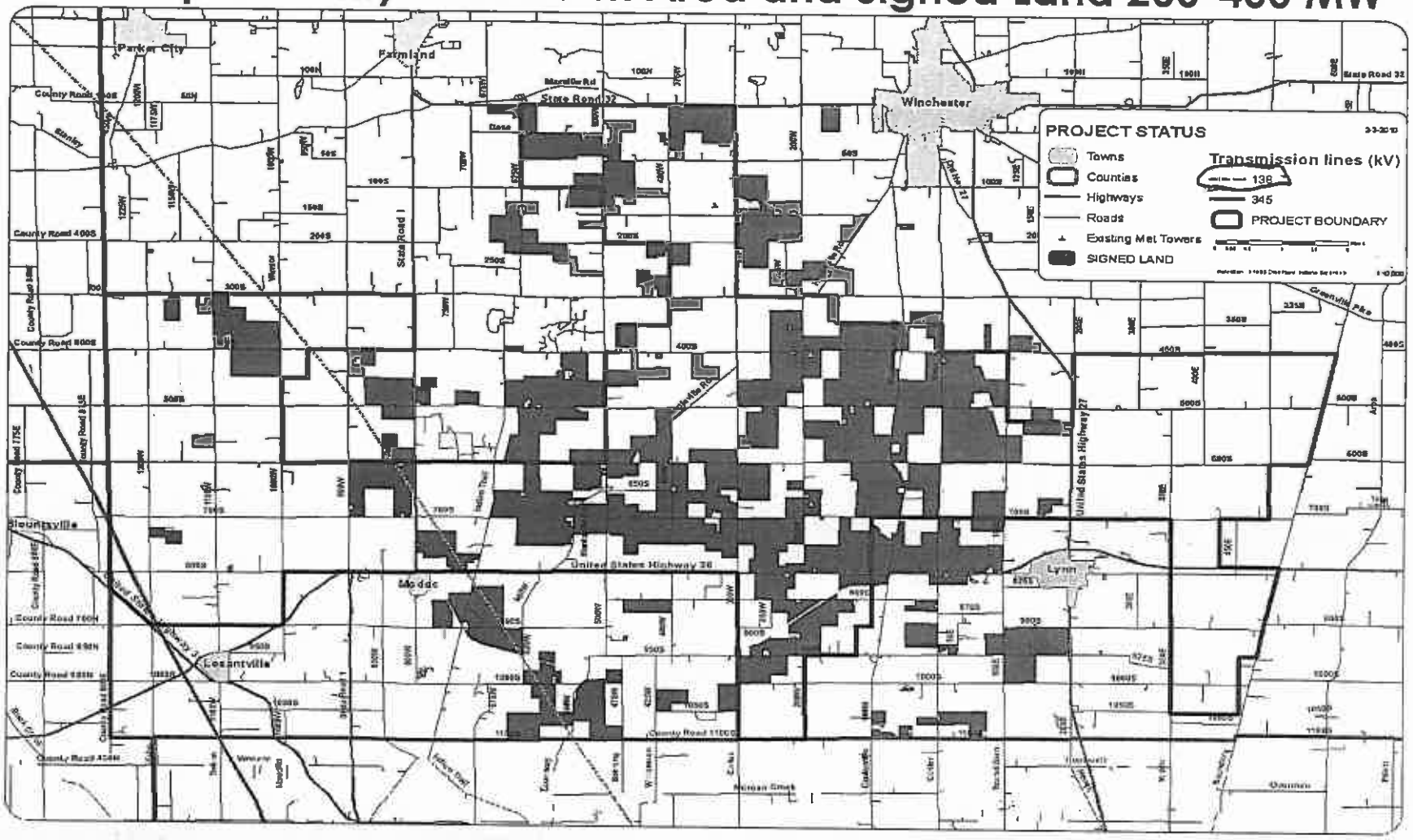
## Randolph County Wind Farm Area and Signed Land 200-400 MW



# What is the timeline for a project?

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**Every wind farm goes through three phases:**

| Development | Construction | Operations |
|---|---|---|
| • 2-10 years<br>• Acquire land rights<br>• Conduct studies and secure permits<br>• Secure transmission<br>• Measure wind | • 1-2 years<br>• Dig foundations<br>• Build/improve access roads<br>• Erect turbines<br>• Dig underground collection cables<br>• Build substation<br>• Clean up | • 30+ years<br>• Monitor operation of turbines<br>• Sell power<br>• Conduct repairs and regular maintenance<br>• Pay landowners |

# Project status update – General

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**We are on track to begin construction of the first phase (200 MW, 111 turbines) of the project in March 2011**

**Development** → **Construction** → **Operations**

- Acquire land rights
- Measure wind
- Secure interconnection and turbines
- Conduct required studies
- Secure permits
- Pre-construction engineering

# Benefits of working with Horizon

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## Working with Horizon has financial benefits...

- Development Term Rent
- Construction Impact Payments
- Compaction Payments
- Crop Damages
- Operating Rent
- Neighbor Agreements
- Other Agreements

# Benefits of working with Horizon

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**...As well as non-financial benefits**

## Respect for landowners and the land

- Landowners are our partners
- Site Plan Approval
- Lease provisions for restoration, compaction, crop damage, tile repair

## Respect for the environment

- Participation in national siting guidelines
- Aggressive wildlife monitoring


## Respect for the community

- Significant new jobs and tax revenue
- Community involvement

# Project status update – Land

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## Leasing is almost complete, neighbor and other agreements are on the way

- Targeting 30,000+ acres across Washington, Union, White River, Stoney Creek & Greensfork Townships
- We have over 23,000 acres signed to the project
- If you haven't signed your lease, please do so!
- Will reach out soon on substation and transmission line

# Project status update – Land

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Horizon signs land agreements (met tower agreements and land leases) with our landowners

- We have identified our potential project area .
- Engage community and potential project participants
- Sign agreements
- Make appointments with Betty and Andy Halberstadt, land agents

WE HAVE MADE OVER

**$900,000** IN RANDOLPH

LANDOWNER DEVELOPMENT PAYMENTS

**LET US KNOW IF YOU INTEND TO SIGN NO LATER THAN**

**MARCH 31, 2010**

# Benefits for You

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Development | Construction | Operations

**Development Payments**

Dollar payments for pre-construction period.

**Impact Payments**

Dollar payments for impacting your land during the construction process

**Operation Payments**

Regular payments based on the facilities installed

- Horizon aims to be a good partner to landowners
- We address community concerns
- We keep landowners updated on project progress
- We deliver maximum benefit to all parties involved

# Randolph County Lease Agreement

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Development Term

- Up to 7 years
- $40/per acre for 5 year period
- $30/per acre for 6th-7th year

Construction Term (First Extended Term)

- Up to 2 years
- Equivalent of annual operations rent based upon the wind farm facilities to be installed

Operations Term (Second Extended Term)

- 30 years (+2 optional 10 year extensions)
- Annual payments based on the facilities installed

# Annual Long-Term Lease Rent

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- Community Payment Approach
- Payments escalate annually at 2% or Consumer Price Index (CPI)

1. Acreage - $15/acre
2. Occupied Residence - $1,000 for a house
3. Access Roads - $1.00/foot
4. Underground Collection System - $0.25/foot
5. Wind Turbines - $2,500.00/MW of capacity (example 1.8 MW = $4,500/turbine)

# Example Payments

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Landowner with 100 acres, 1 (1.8 MW) turbine, ¼ mile of access road and cable and a home

| Payment | Year | Example: |
|---|---|---|
| Development | 2008, 09, or 10 | $4,000 |
| Construction | Early 2011 | $8,650 |
| Operation* | 2012 and every year after | $8,650* |

*adjusts annually by CPI index or 2%, whichever is greater

# We need to verify our wind speed estimates

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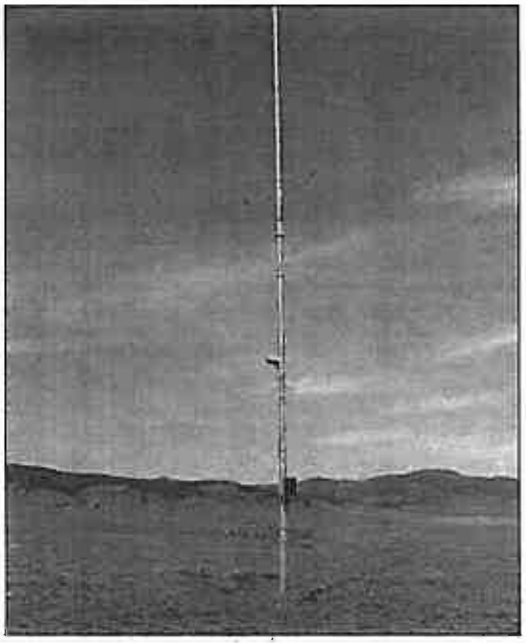
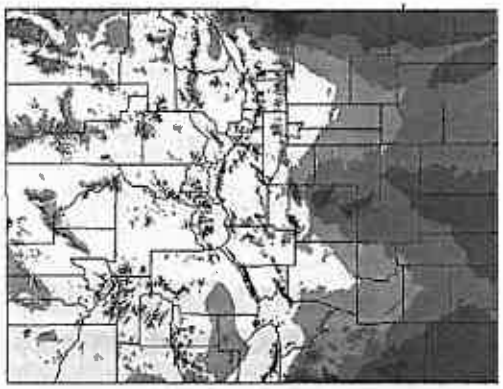
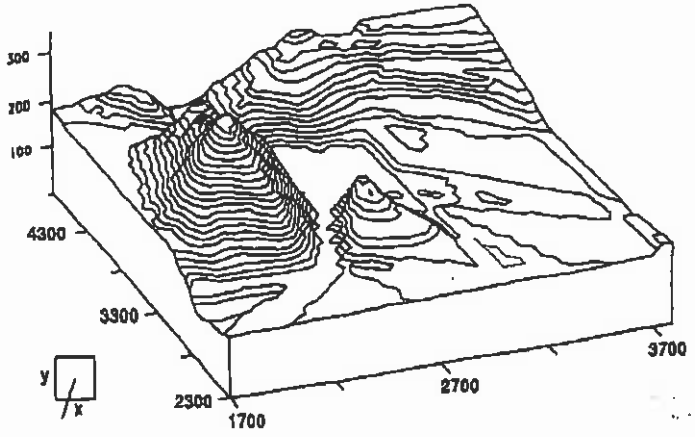


Meteorological Tower

Horizon spends 2+ years measuring the wind to find the windiest spots on your land and to predict generation

- Secure meteorological tower permits
- Erect towers
- Monitor the wind and quality control data
- Analyze data in-house and with outside meteorologists
- Verify the strength and characteristics of the wind resource
- We have installed four (4) met towers in 2008-2009 and plan to install several more in 2010





# Other Development Studies

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## Studies underway or soon to begin

- Airspace (FAA)
- Wildlife (Birds, Bats, habitat mapping, etc.)
- Land Title Commitments
- Environmental Site Assessments (Phase 1)
- Setbacks (homes, roads, pipelines, etc.)
- Permitting studies (decommissioning and noise)
- Engineering…

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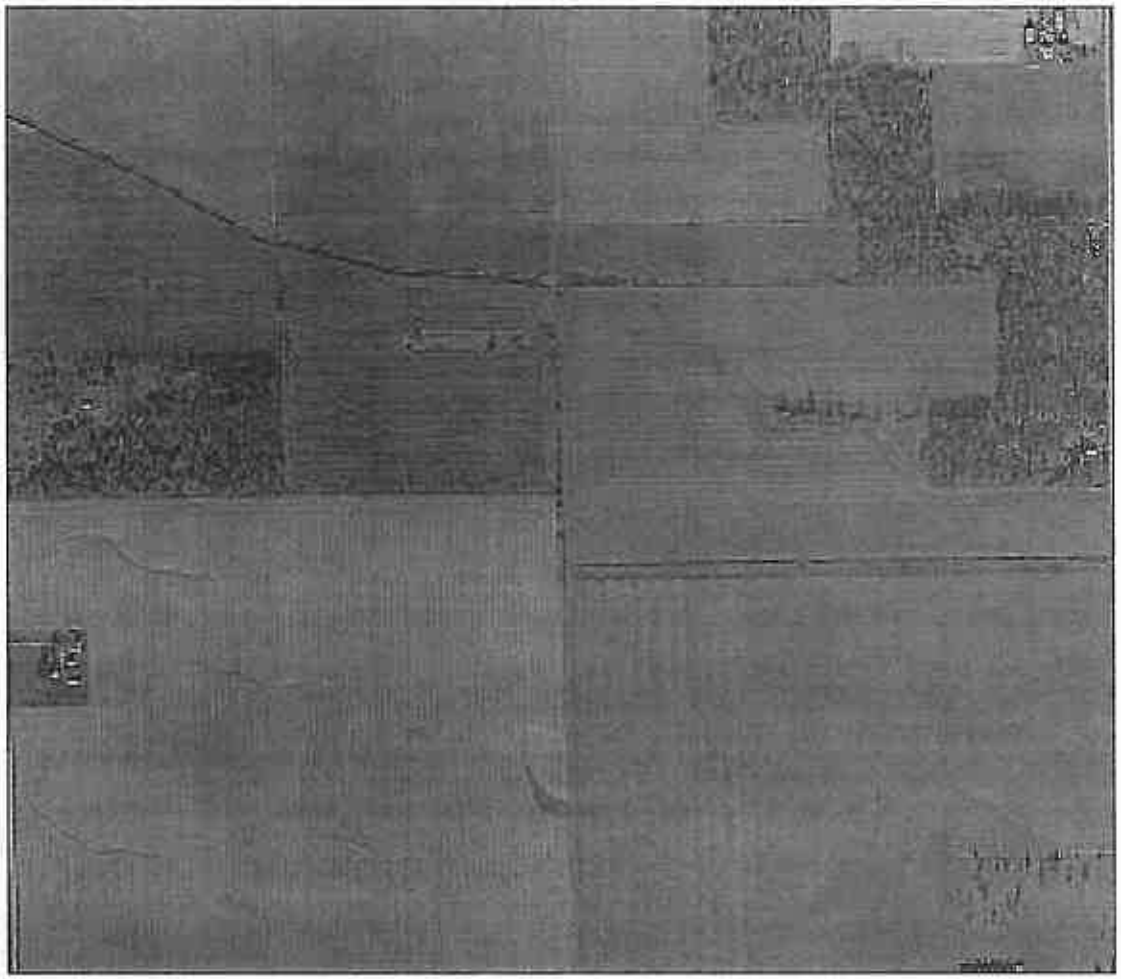
# Engineering studies underway or soon to begin

- Aerial Mapping
- Survey
- Wetlands and Cultural Studies
- Geotechnical Investigation
- Civil Road Design

## Aerial Mapping


- An aerial photograph of the area is taken to obtain accurate data for land planning and setback analysis.
- Aerial photography of Randolph County has already been completed and final mapping is under way.
- There is no disturbance to the land owners during the activity.

## Aerial Mapping



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## Survey

- Surveyors will be in the project area locating section corners, property corners and utility crossings.
- Most of the survey work is done outside of private property and their equipment is small.
- To mobilize, surveyors generally travel by foot or using a small four-wheeler.
- Locating the turbine site will require the surveyors to enter private property with prior consent from the landowner.
- Survey work is an ongoing effort throughout the engineering phase of the project.

## Wetlands and Cultural Studies

- To identify a potential wetland, a test pit is dug with a shovel to inspect the soils and for evidence of wetland hydrology.
- Test pits are approximately 18 inches deep and about 1 foot across.
- The soils are inspected and then the pit is backfilled with the soil which was removed.
- The location is typically marked with a high-visibility pin flag labeled with a site ID.
- When delineating wetland or stream boundaries pin flags are placed 50-75 feet apart along the boundary as GPS coordinate information is collected.

## Wetlands and Cultural Studies

- In Indiana, a background search is conducted to identify previously recorded sites per the Corps of Engineers local district requirements.
- Archeological surveys generally consists of personnel walking within a proposed area of a road or other wind farm facility, as determined by the State.
- Limited probing or auguring will be used to confirm soil types.
- Any holes dug or augered are refilled when the inspection of soils is completed.

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## Geotechnical Investigation

- Surveyor first stakes boring locations with wood lath.
- Clearance of existing underground utilities will follow to verify that no underground pipes are located at the drill location.
- Geotechnical drilling rigs will move to the boring site following established site access routes.
- The drilling rig will drill a 5- to 8-inch diameter vertical hole to about 50-ft deep below ground surface at each turbine site.
- The CPT rig will push a 2- to 3-inch diameter hole to about 50-ft deep below ground surface.
- Soil samples or rock cores will be conducted in the 50-ft hole.

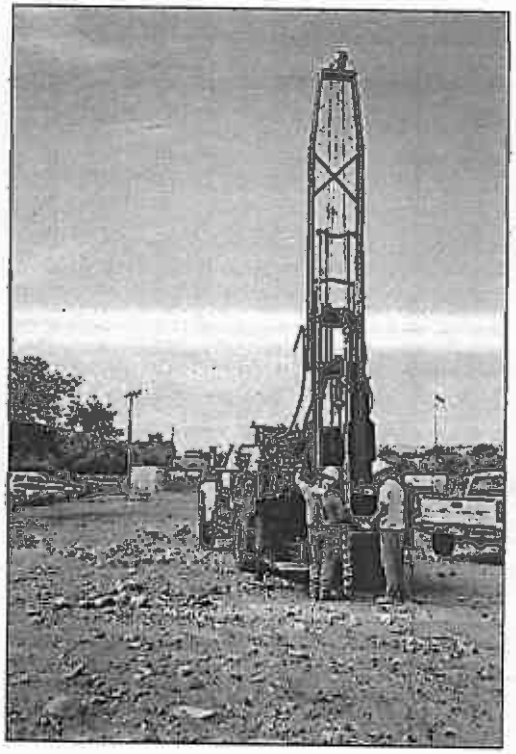
## Geotechnical Investigation

- The drilling rig and CPT rig can be mounted on a full-size truck, rubber or steel track, or buggy.
- The truck rig is used if the ground surface is firm and dry; buggy or track rig will be used if the ground surface is wet or soft.
- The borings or CPT holes will be backfilled upon completion of drilling.
- Boring or CPT at each turbine site will typically take a few hours with a 3-men crew.

# Geotechnical Investigation

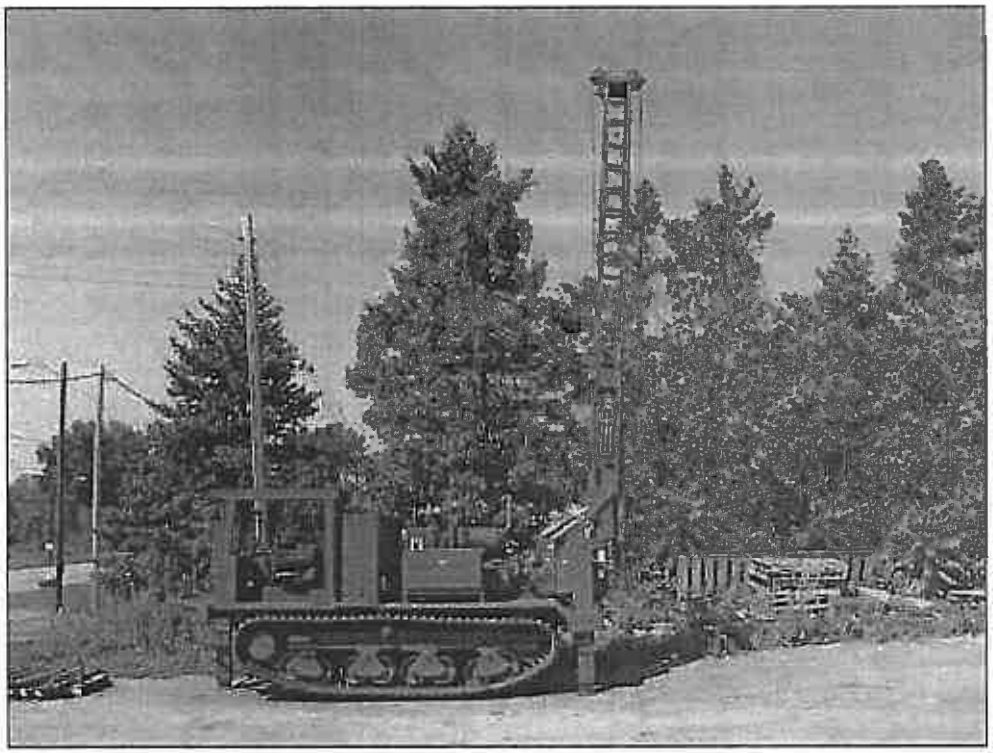
Truck-mounted and track-mounted CPT rigs

# Geotechnical Investigation



Truck drilling rig

## Geotechnical Investigation



Track boring rig

## Geotechnical Investigation

- Piezometers are installed at determined turbine locations.
- This 2-inch diameter, 15-ft deep ground-water monitoring well has a 5-ft tall PVC Pipe Riser above ground.
- Geotechnical personnel will come back to the piezometer a few times with a pick-up truck or light-weight golf-cart sized utility vehicle to measure ground water depth for a period of one to 3 months.
- The piezometer is typically installed using the same boring rig that drilled the turbine boring.
- The piezometer is typically removed in the construction phase during the turbine foundation excavation process.

**Slide 33**

**JRS2** EZ: Is this true? Water monitoring at every WTG? I have not seen that in the past.
JR Stone, 2/2/2010

# Civil Road Design

## Civil Road Design

- A Public Road evaluation will be conducted to determine the initial condition of roads in the project area.
- Private access roads connecting the turbine strings to Public Roads will be designed based on field conditions and land access.
- Existing road condition, local and state regulations, and participation of landowners will help determine the route for transporting turbine components.
- Culverts, bridges, and other crossings are also evaluated.
- Civil road design work is generally done outside of private property with none or very minimal disturbance to land owners.

# Civil Road Design

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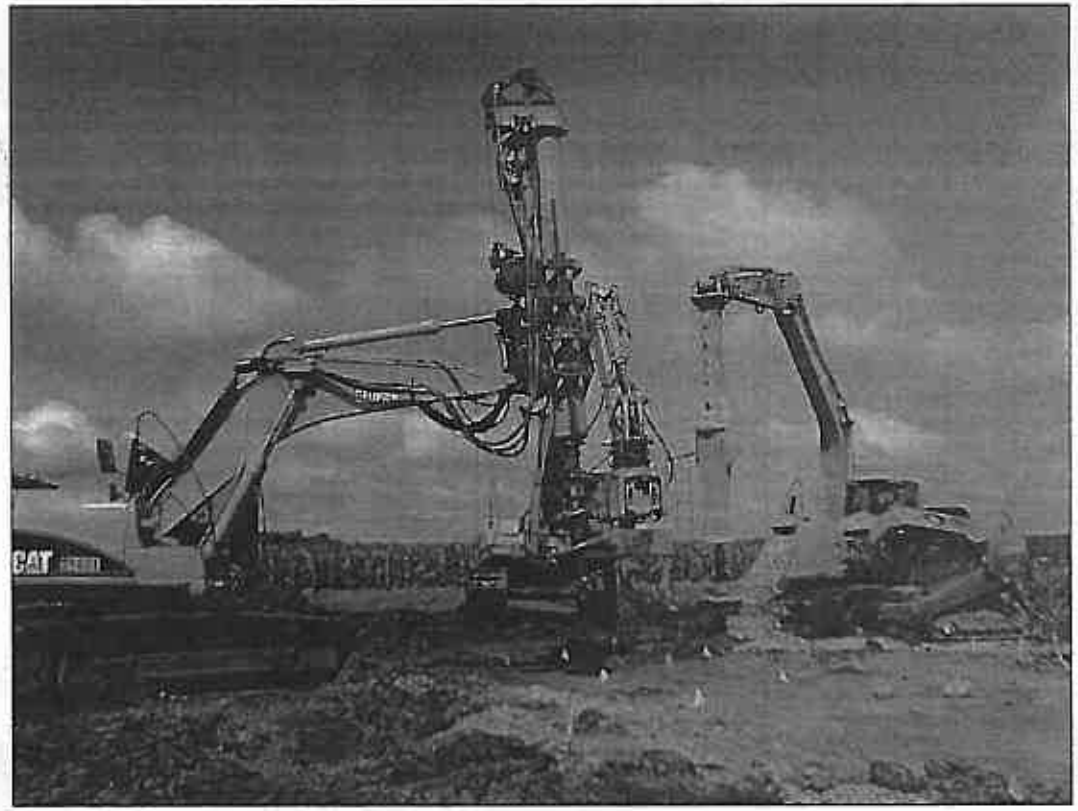
Upon completion of engineering studies and design is finalized, Construction begins…



# Construction

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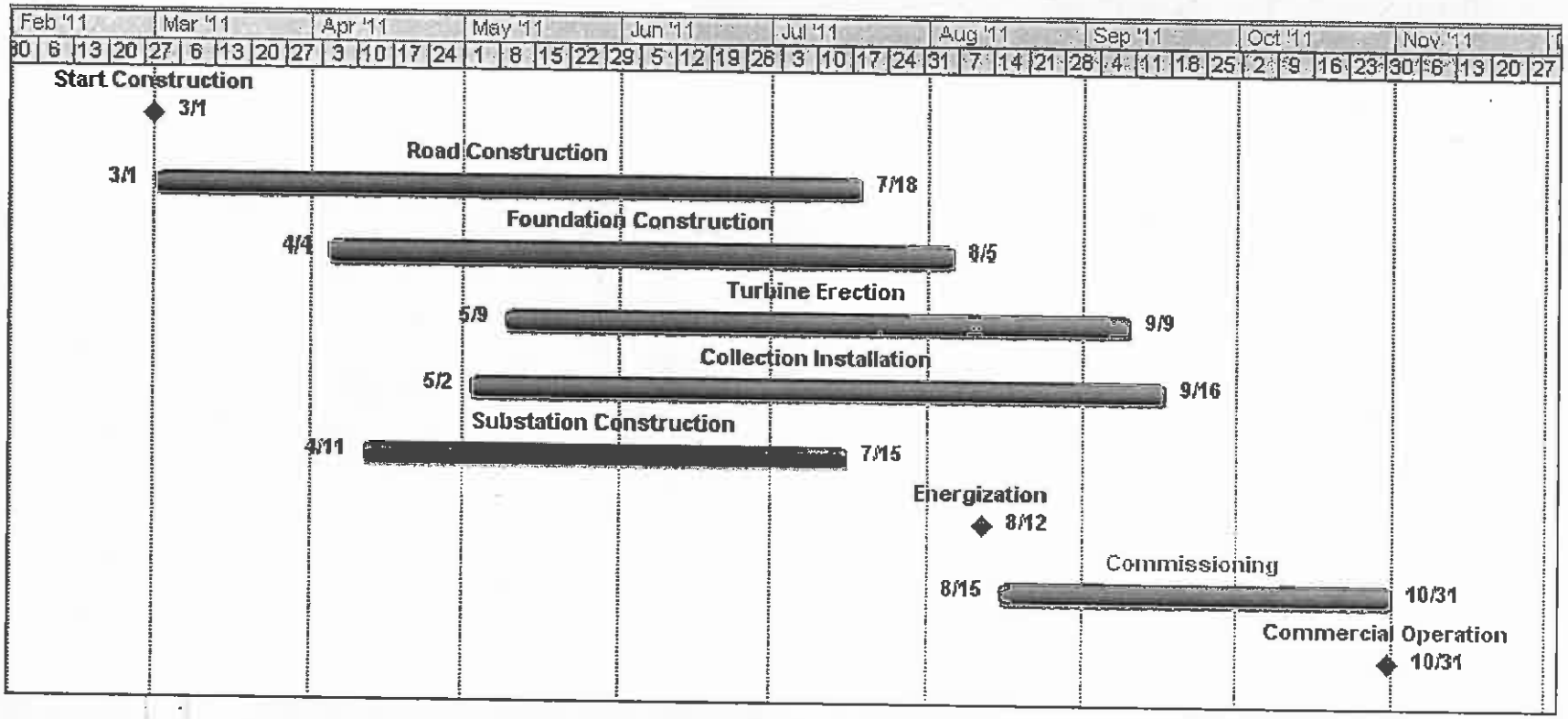

# County Road Improvements & Intersections

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# Access Road Installation

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# Foundation Construction

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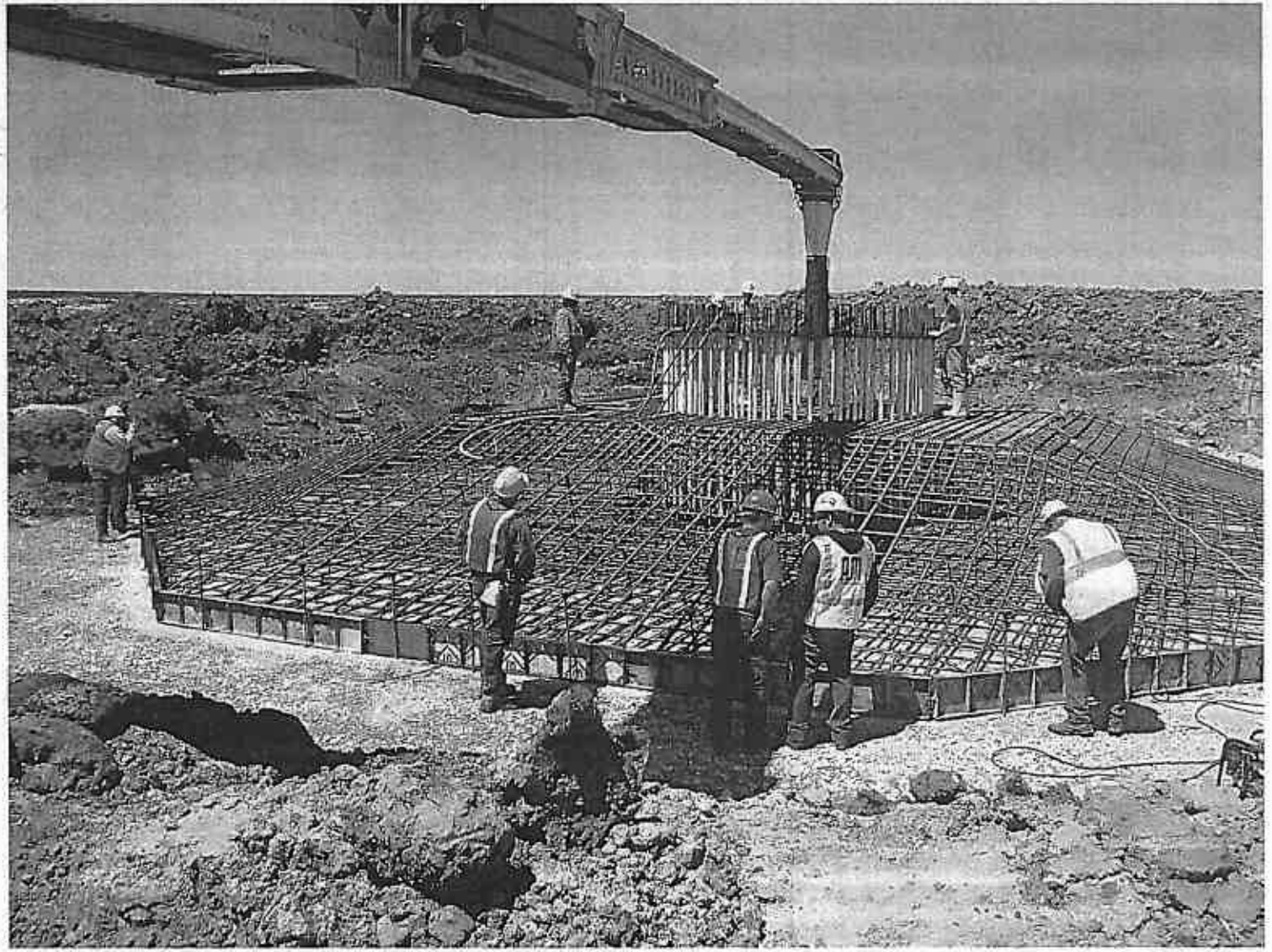

# Foundation Construction

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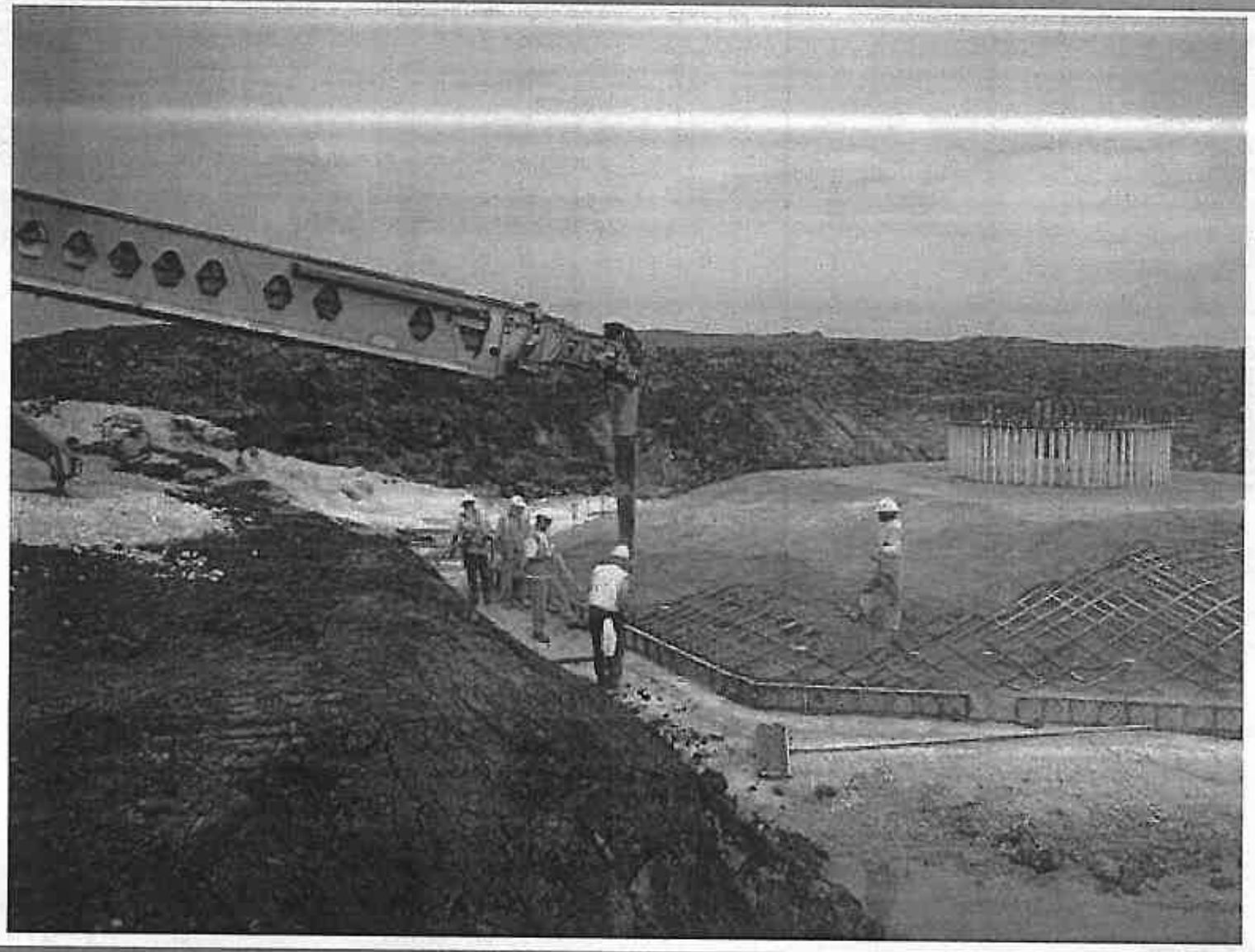
An EDP Renewables Company



# Deliveries

Horizon Wind Energy
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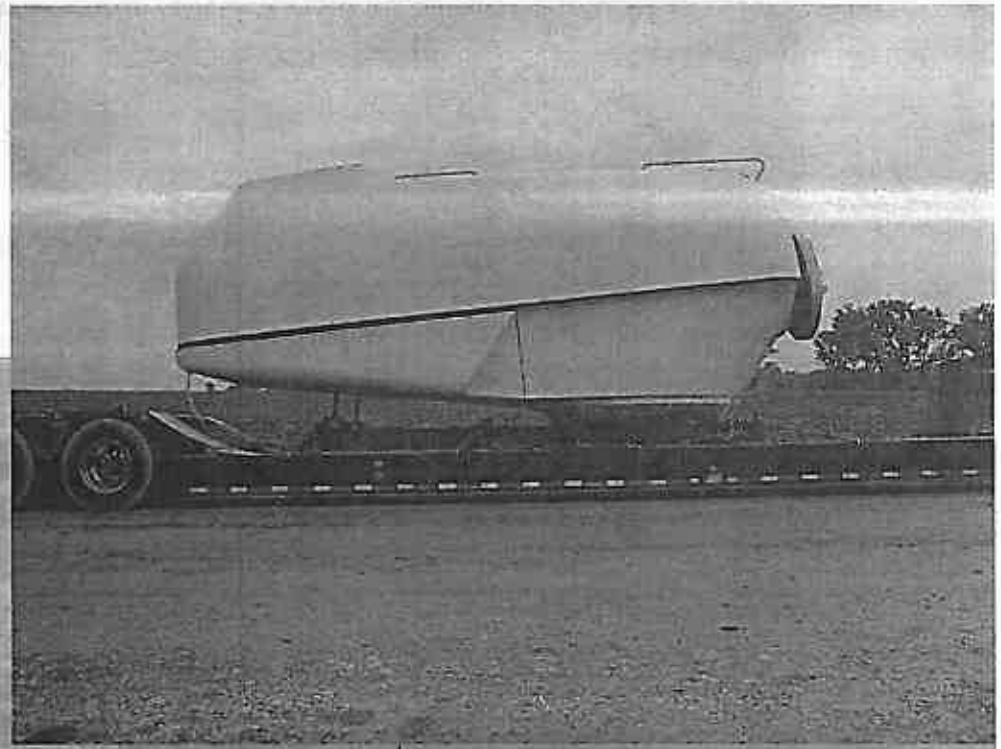

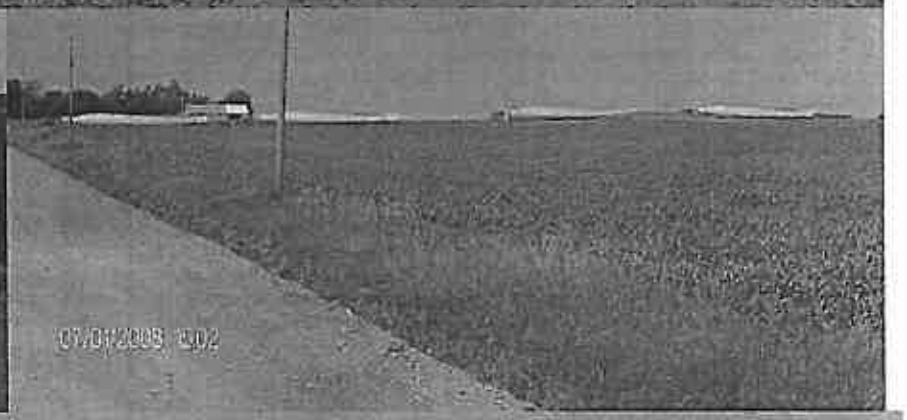

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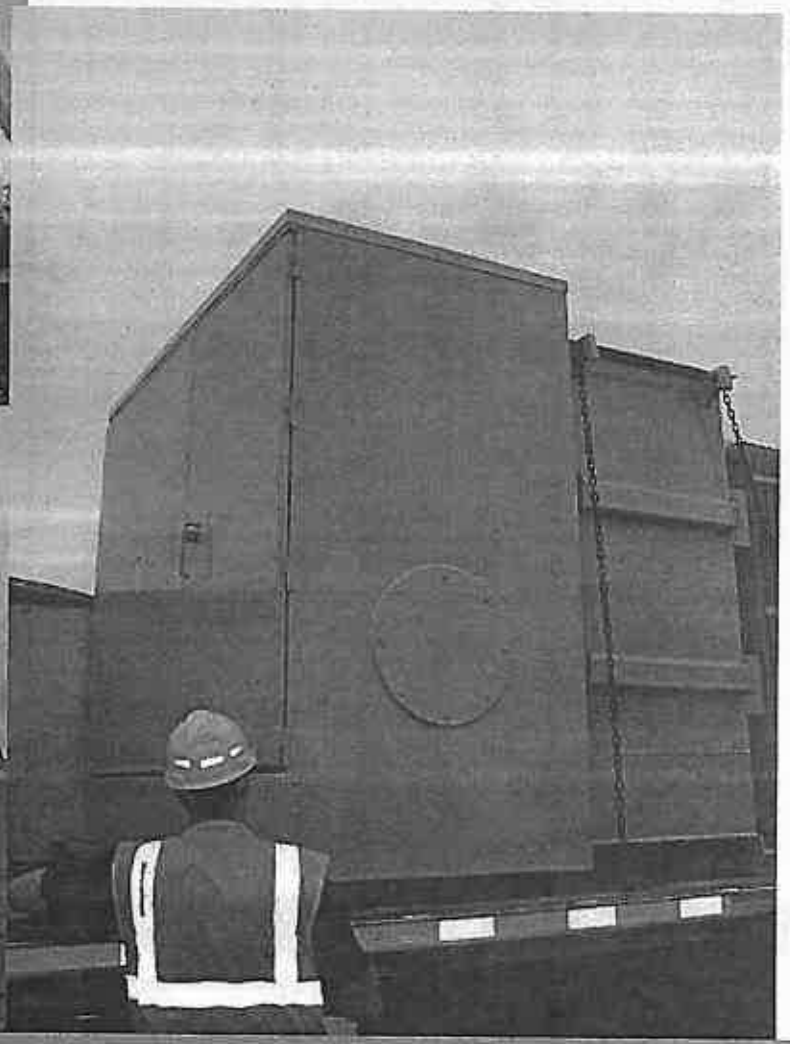

# Deliveries

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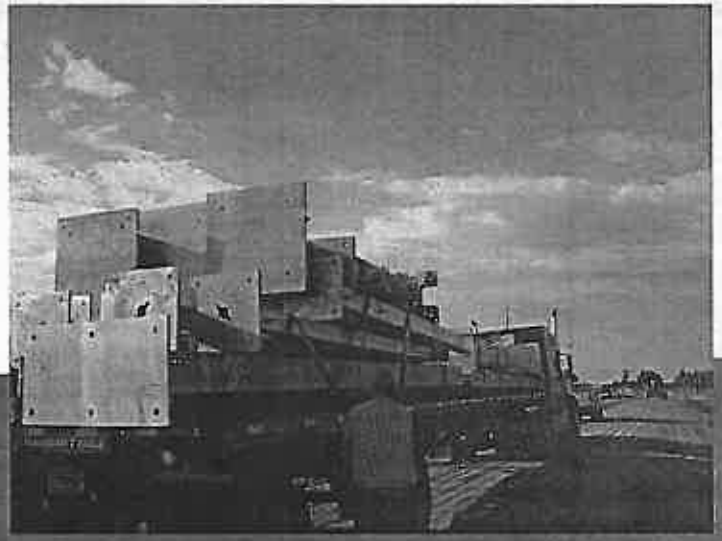

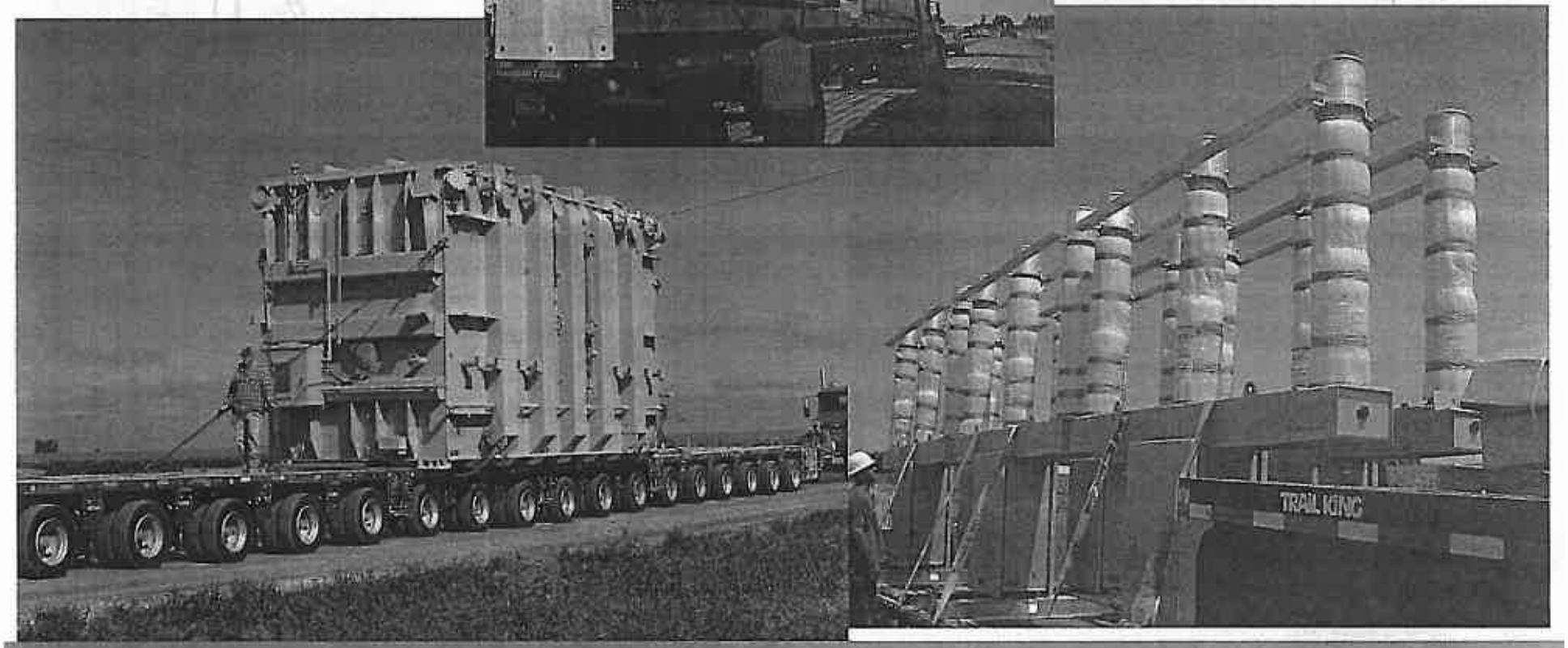

# Road Maintenance

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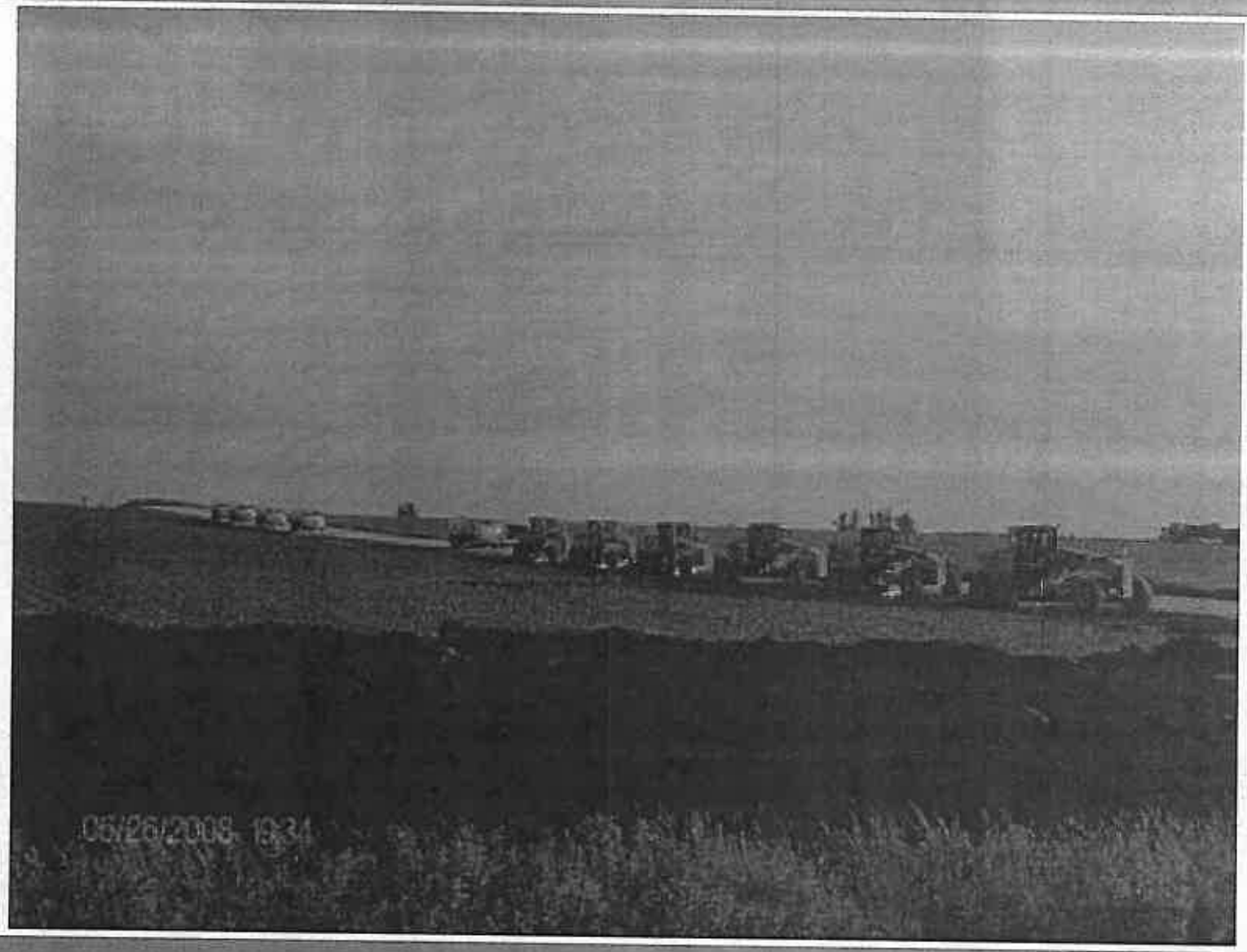

# Turbine Assembly

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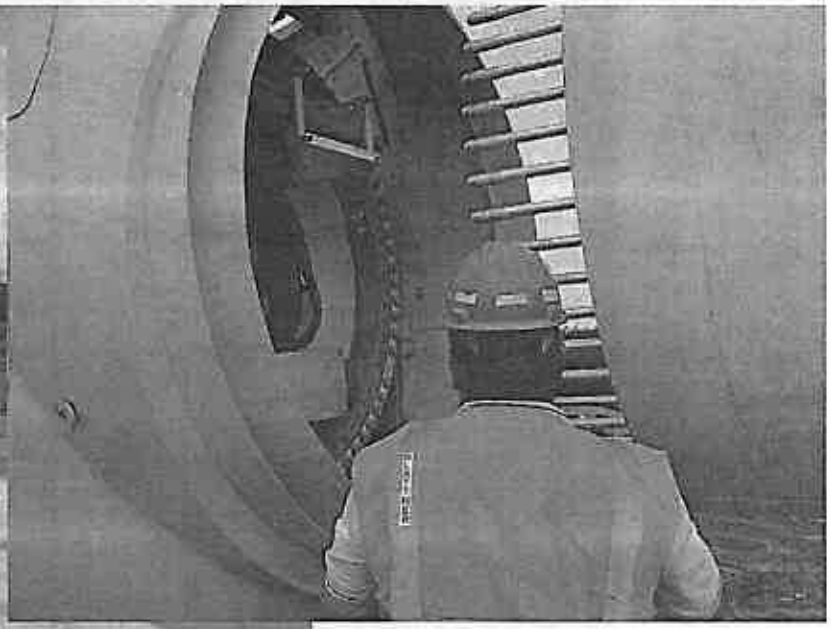

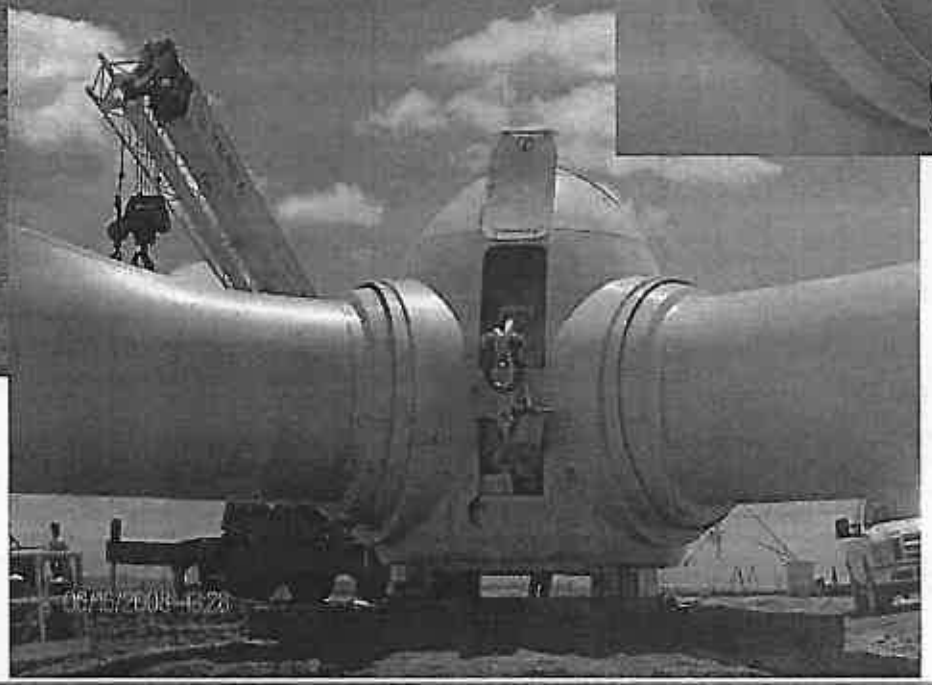

# Turbine Erection

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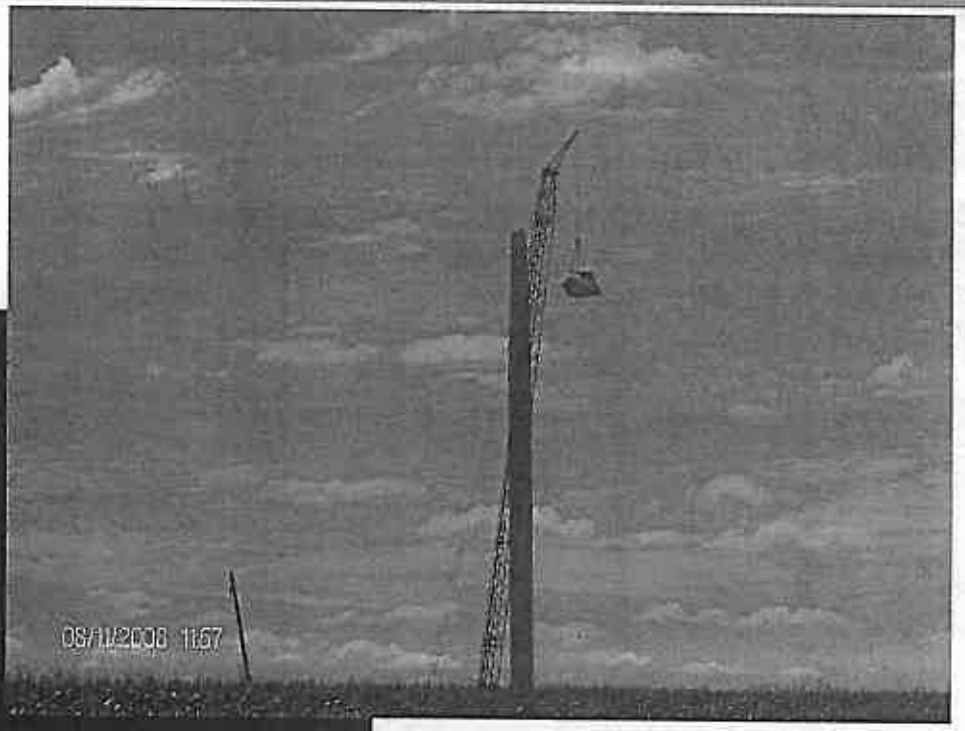


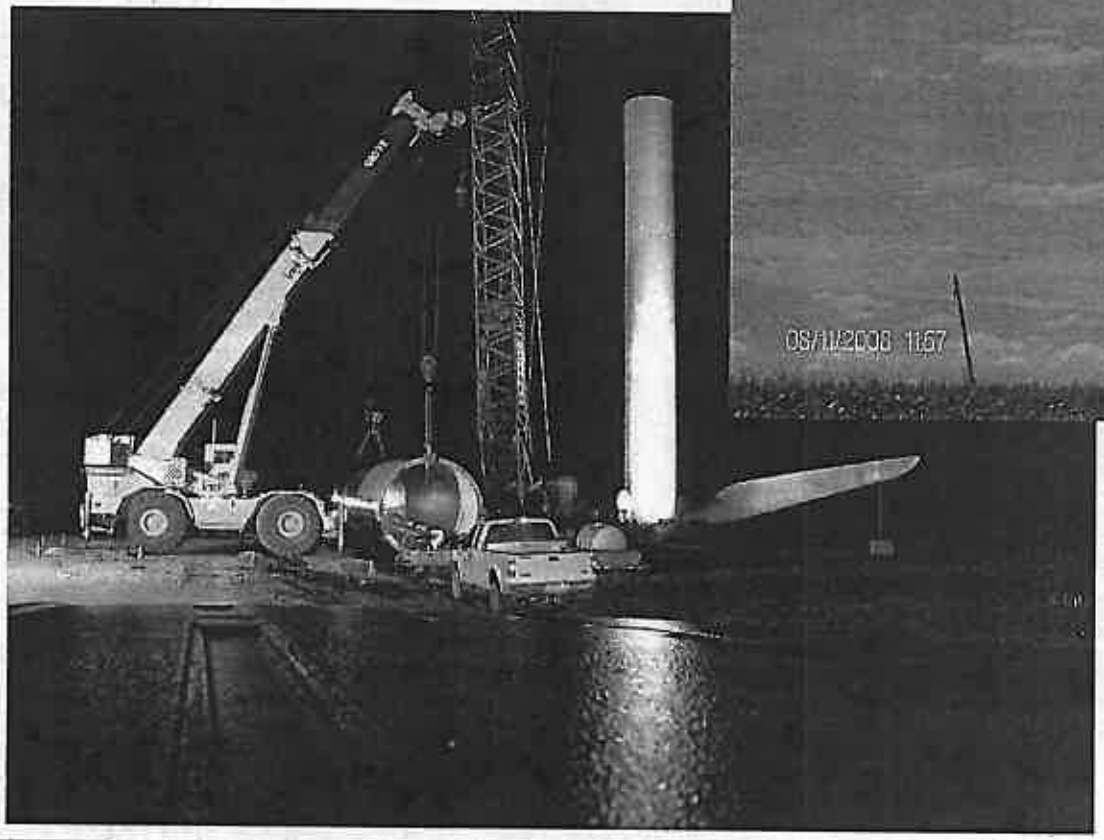

# Turbine Erection

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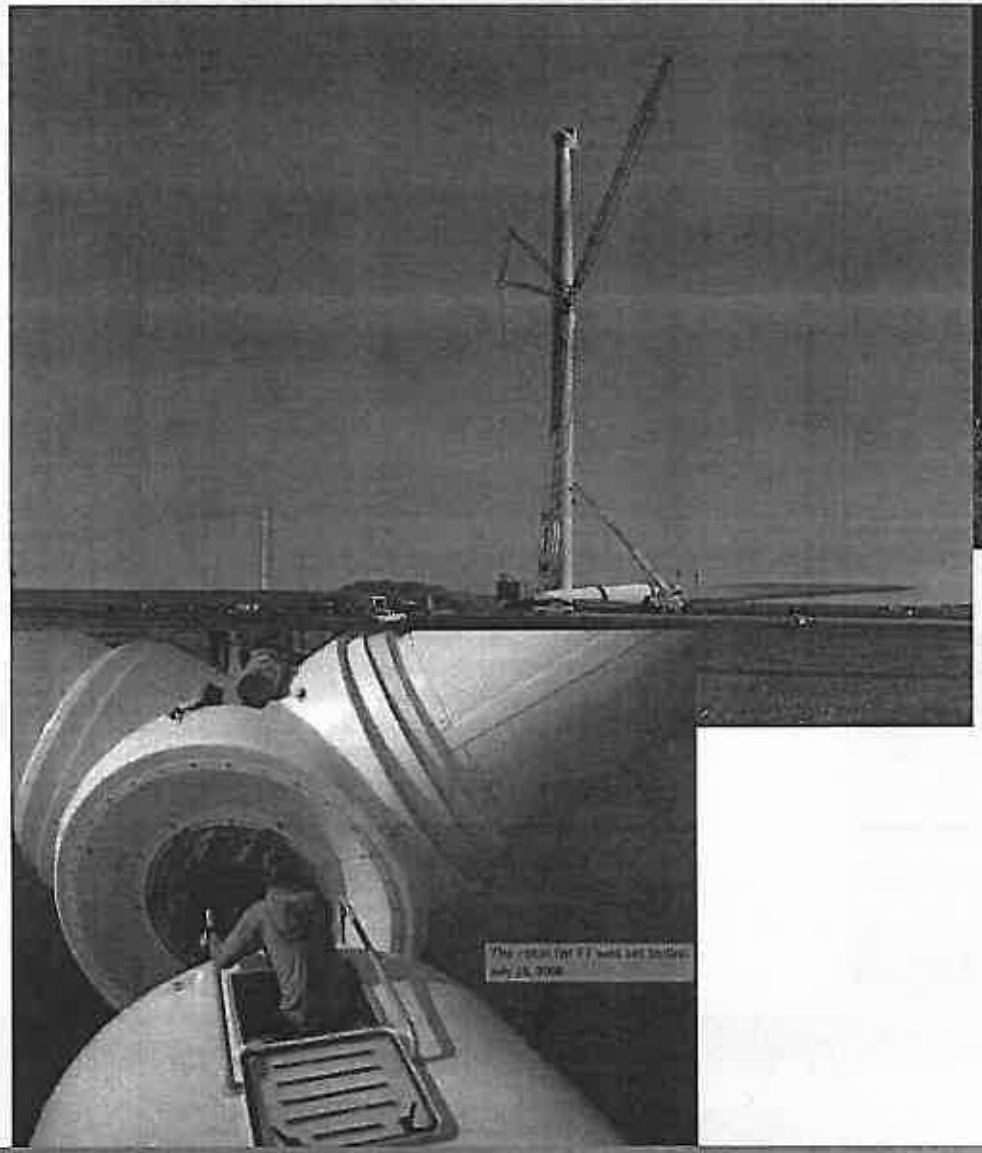

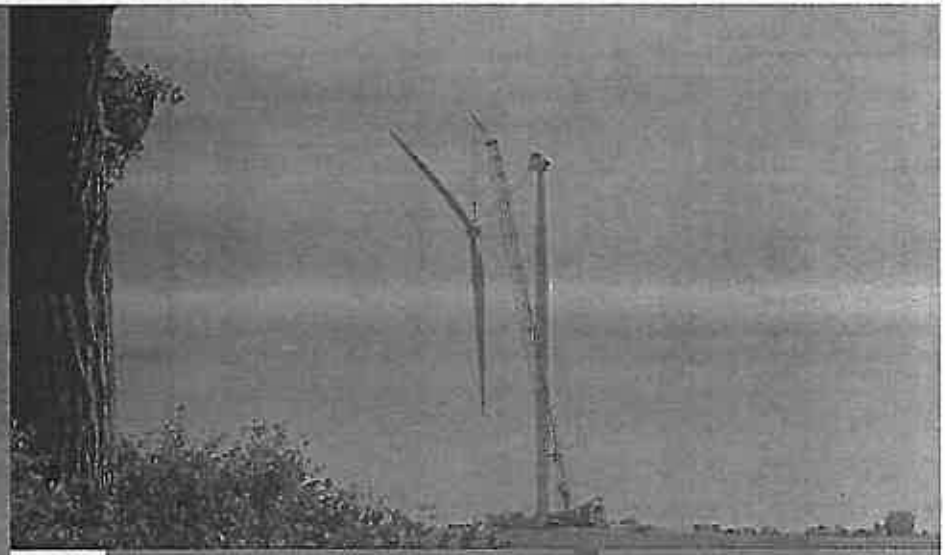

# Crane Walk

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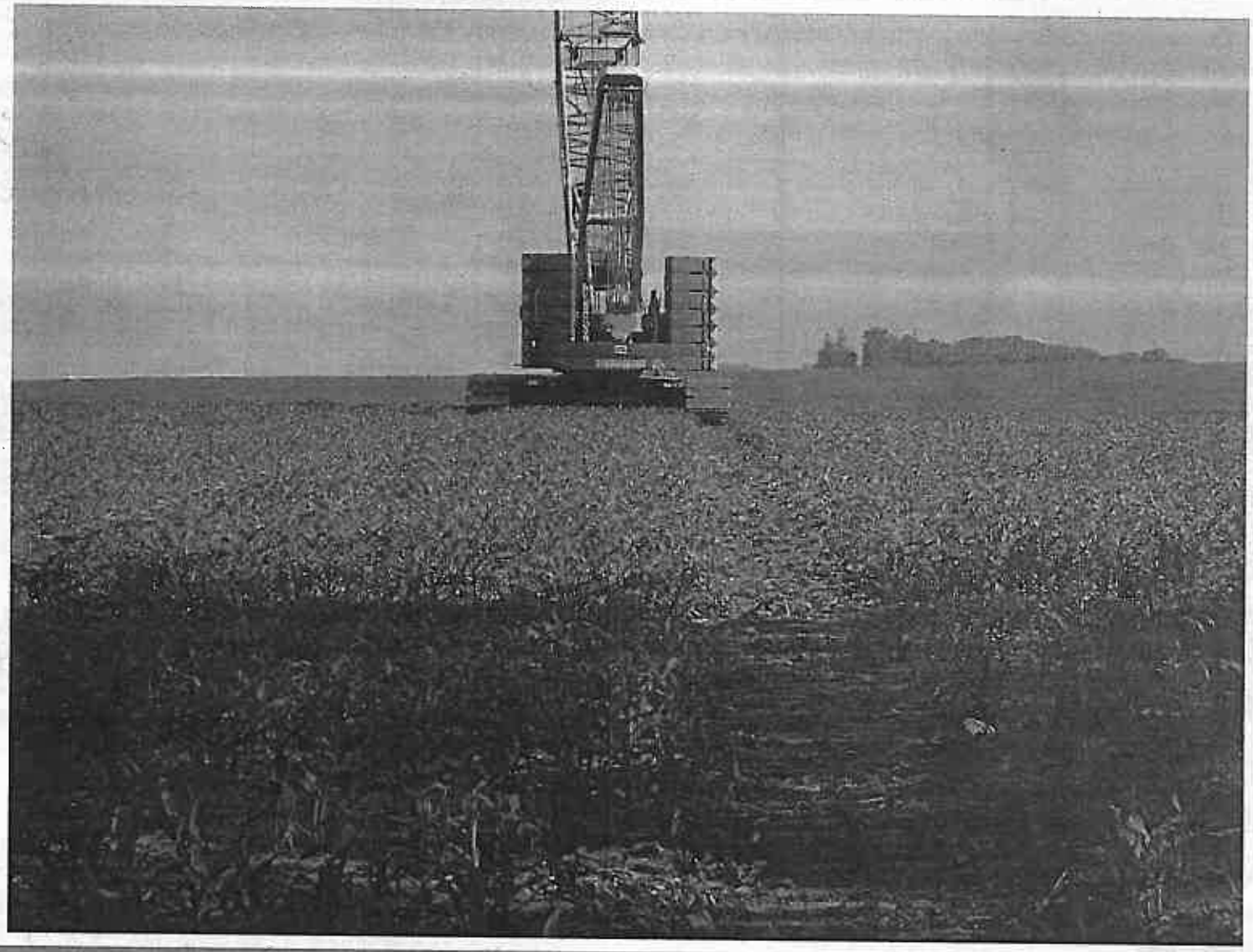

# Collection System

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# Collection System

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# Drain Tile Repair and Junction Boxes

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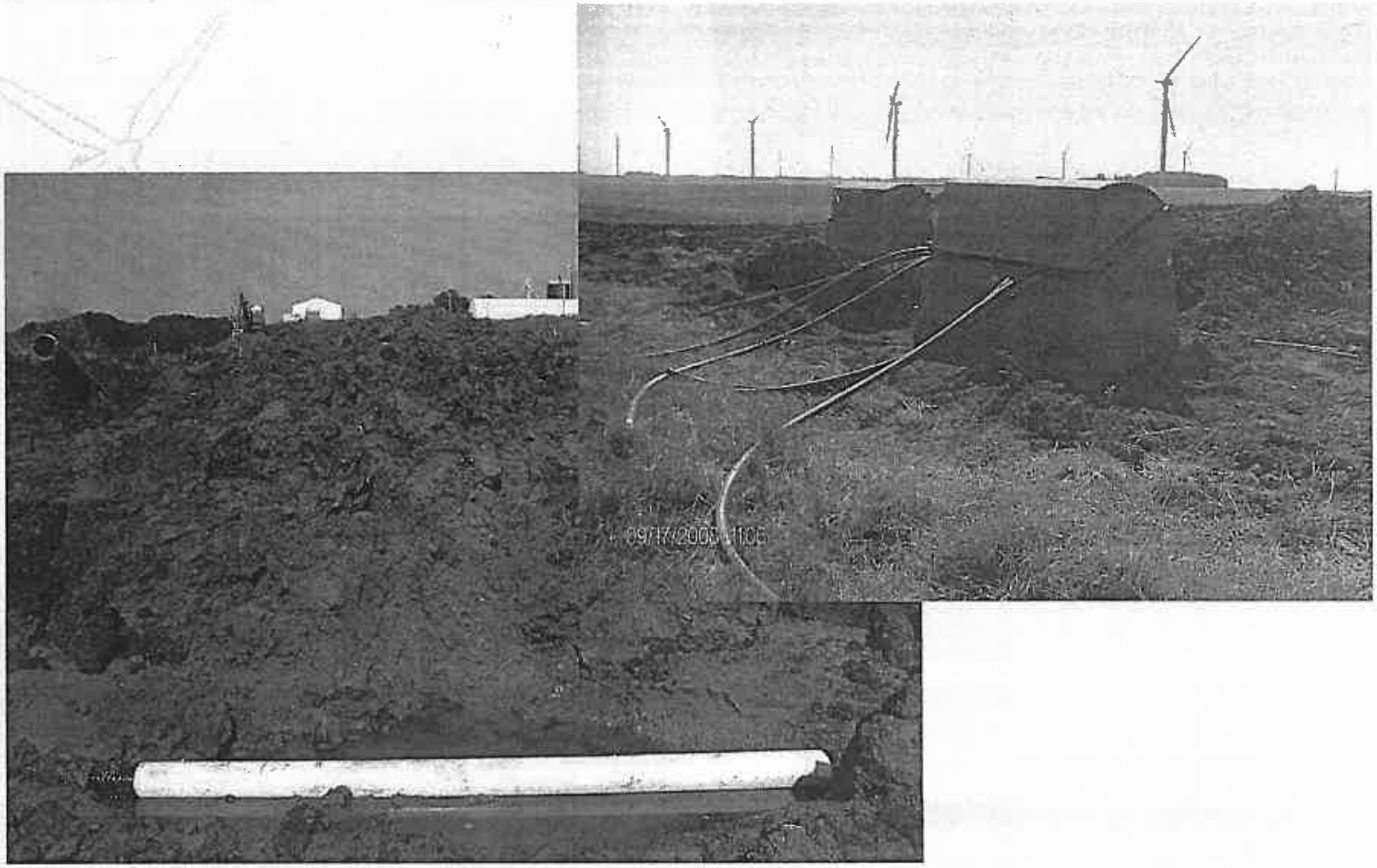

# Substation

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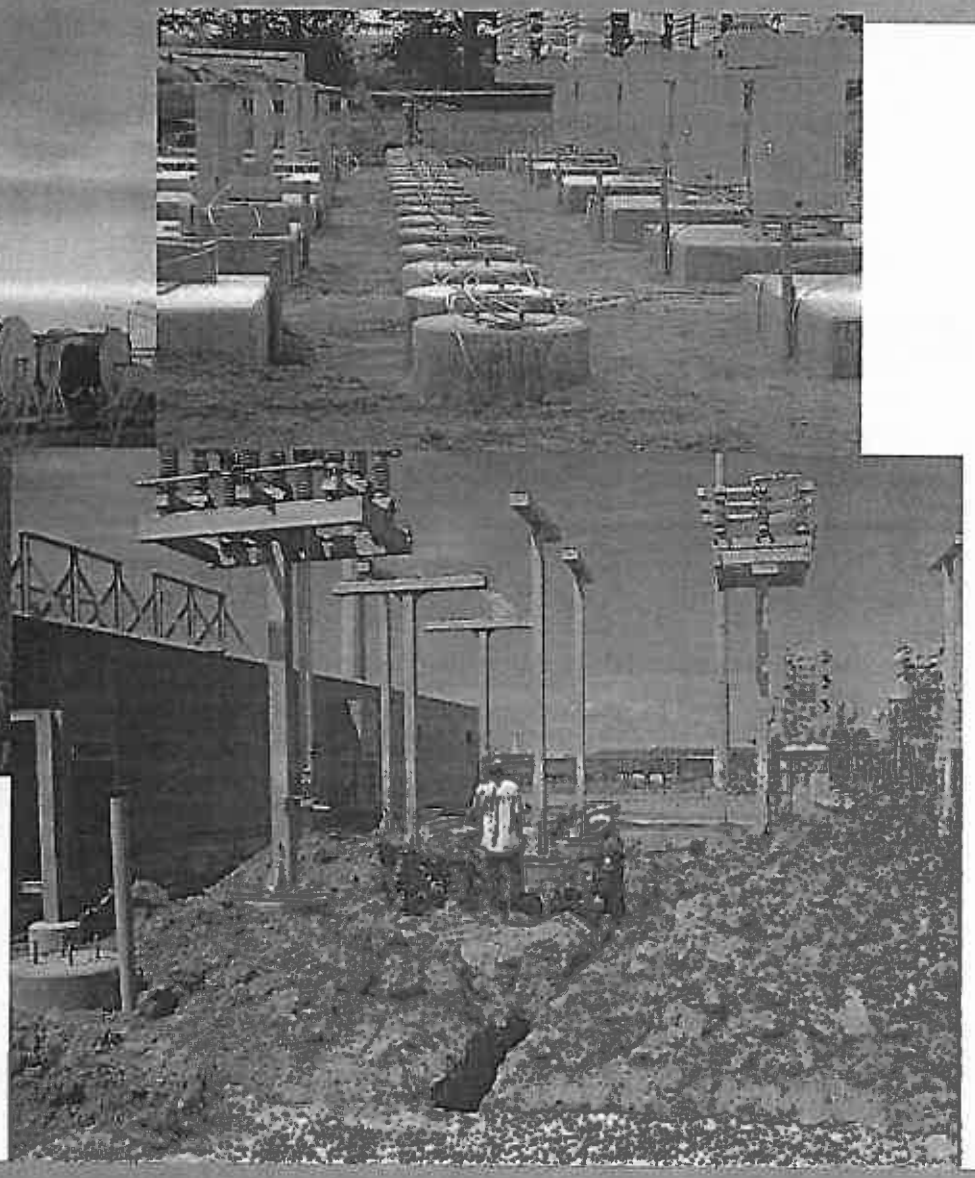
An EDP Renewables Company

# Substation

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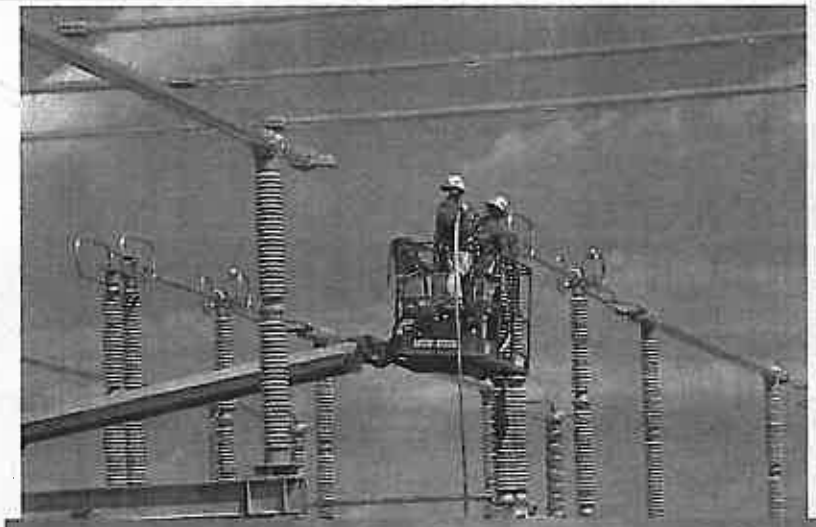
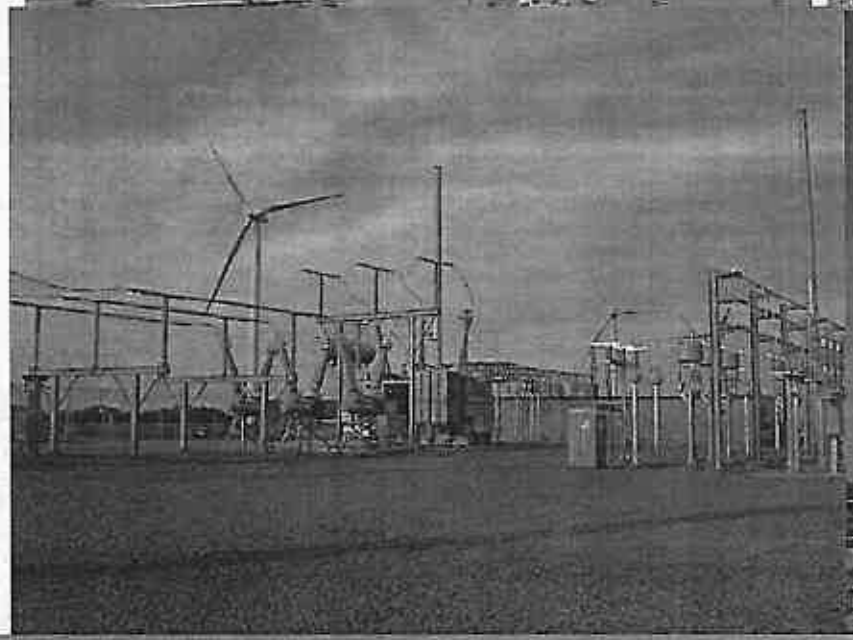
An EDP Renewables Company





# T-line

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# Met Tower

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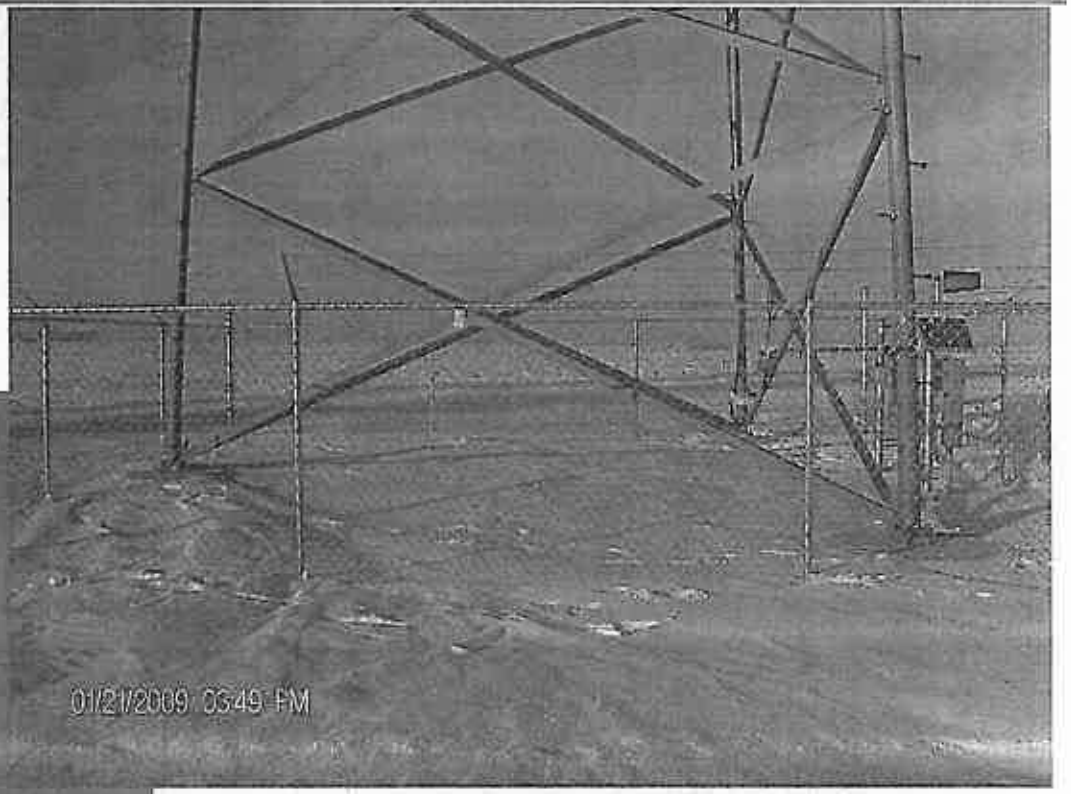
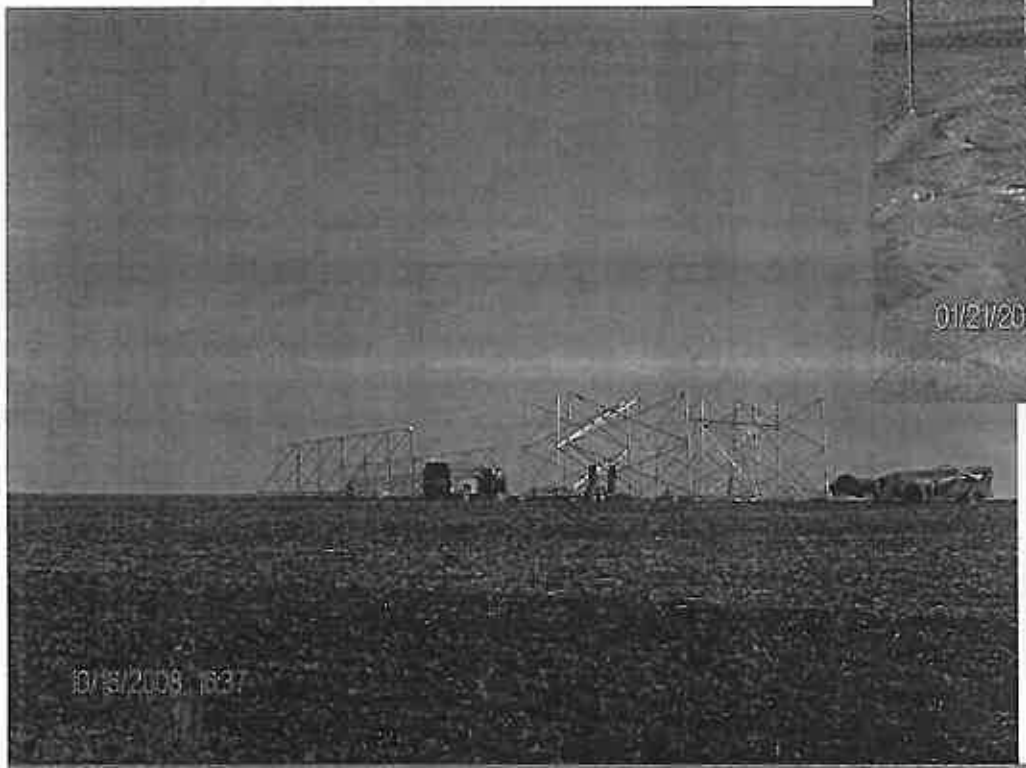


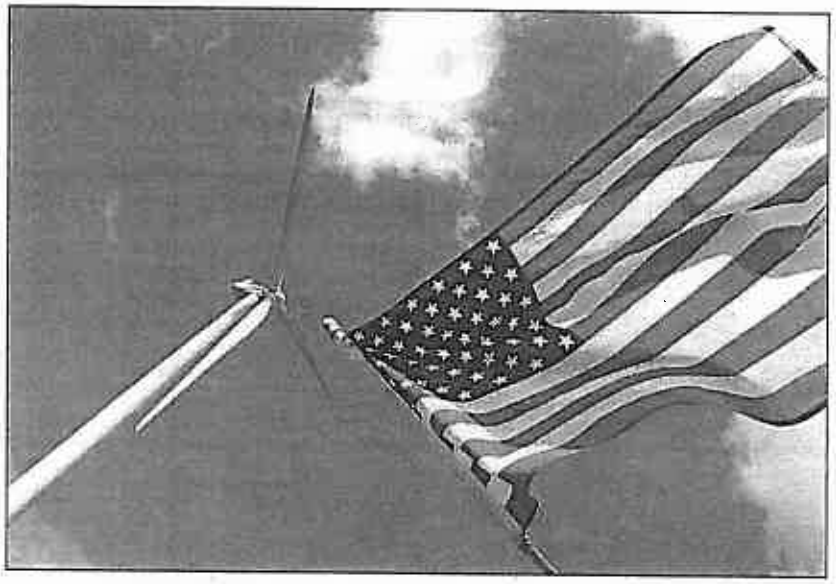
# Benefits of Wind Energy

Horizon Wind Energy
An EDP Renewables Company

## Benefits to Local Economies

- Promotes rural economic development
- Compatible with land uses, including farming and ranching
- Provides full-time jobs
- Generates tax revenue for community

## Benefits to the United States



- Good for the environment
- U.S. energy security
- Growing number of green energy jobs in the U.S. including turbine engineering and manufacturing, wind energy assessment and law

# Next Steps

Horizon Wind Energy
An EDP Renewables Company

## For Horizon Wind Energy

- Complete land signing
- Continue necessary transmission and environmental studies
- Measure and analyze wind data, possibly install new met tower
- Begin engineering work
- Answer landowner questions

## For You

- Receive, review, and sign wind lease
- Ask us questions
- Help us get the word out – invite us to come speak at your local organization
- Give us your patience and commitment – this will take time

# Respect for Community

Horizon Wind Energy
An EDP Renewables Company

**Horizon believes in being a good community partner**

Local impact of Twin Groves I and II

- 700,000 tons of aggregate (local)
- 42,000 cubic yards of concrete (local)
- 300 construction jobs for two years
- Millions of dollars annually in lease payments to landowners and annual property tax payments
- 40-45 full-time operations and maintenance jobs