

Daily Schedule

7:45 a.m.	Coffee and snacks
8:00 a.m. – 12:00 noon	Morning Session (with break)
12:00 noon – 1:00 p.m.	Lunch break
1:00 p.m. – 5:30 p.m.	Afternoon Session (with break and refreshments)

- This course is designed to meet the Continuing Education competency requirement for many professional registrations
- A detailed set of materials will be given to each person attending
- There will be approximately 8 contact hours per day
- A credit of 24 PDH (Professional Development Hours) will be provided to each attendee desiring it, upon completion of the entire course, or 8 PDH for those attending Day 1 only. This credit will appear on any NMSU transcript requested afterward (There is no additional charge for this, and the attendee does not have to be enrolled at NMSU as a regular student)
- Refreshments will be served each morning and afternoon

Tentative Topical Overview

Day 1: The Business of Wind Energy

Audience: All, including corporate leaders. The first day is a review of existing practices and present trends in the area of wind energy, and is particularly directed toward managers and planners.

Welcome

Joel Ivy,
Vice President, PNM

Policy Overview

- State and federal incentives
- Carbon Policy
- RPS
- Renewable Energy Zones

Brian Parsons, NREL

Brad Nickell, WECC

Wind Technology Overview

Robert Zavadil, ENEREX

Interconnection and transmission impacts

- Interconnection Standards (Grid Codes)
- Interconnection policy and queue issues
- Transmission development challenges and solutions

Abraham Ellis, PNM

Integration and system operation impacts

- Wind variability and operational impacts
- Wind integration studies
- Summary of best practices (markets, flexibility, forecasting)

Charles Smith, UWIG

Q&A

Satish Ranade, NMSU

Day 2: Interconnection

Audience: System Planners, Engineering Design Personnel, Contract Specialists

Interconnection Process

(To be decided)

LGIP
Queue Management
Post-interconnection (TSA, PPA)

Wind Power Plant Characteristics

Robert Zavadil, ENERNEX

Technology,
Capabilities (dynamics, short circuit)
Models

Eduard Muljadi, NREL

Standards and Interconnection

Abraham Ellis , PNM

Standards and Grid Codes
Interconnection Studies
Examples

Design Issues

Inside the wind farm
Station design

(To be decided)

Gene Wolf , Lone Wolf Engineering

Transmission Planning for Renewables

Dale Osborn, MISO

Sub-Regional & Regional Planning
Resource Plans
Tools & Methods

Day 3: Operations

Audience: System Planners, System Operators, Contract Specialists

Overview of Power System Operations

Balancing Area Concepts
Economic Dispatch

(To be decided)

Wind Energy Characteristics

Intermittency, large wind event
Forecasting
Integration impacts
Capacity Value

Michael Milligan, NREL

Markets

ADI
Dynamic Scheduling
Consolidation
Gate closures

Brendan Kirby, ORNL

Ancillary Services

Regulation
Firming/Shaping

Elliot Mainzer, BPA

Operator Experience

CAISO
PNM

Dave Hawkins , CAISO
Dave Miller, PNM