



THE UNIVERSITY OF TEXAS AT ARLINGTON

## Design and Construction Considerations Near Renewables

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# Renewable & Utility Coordination

- Renewable growth near existing utility infrastructure
- Utility growth near renewable assets
- Renewable interconnections to utility assets

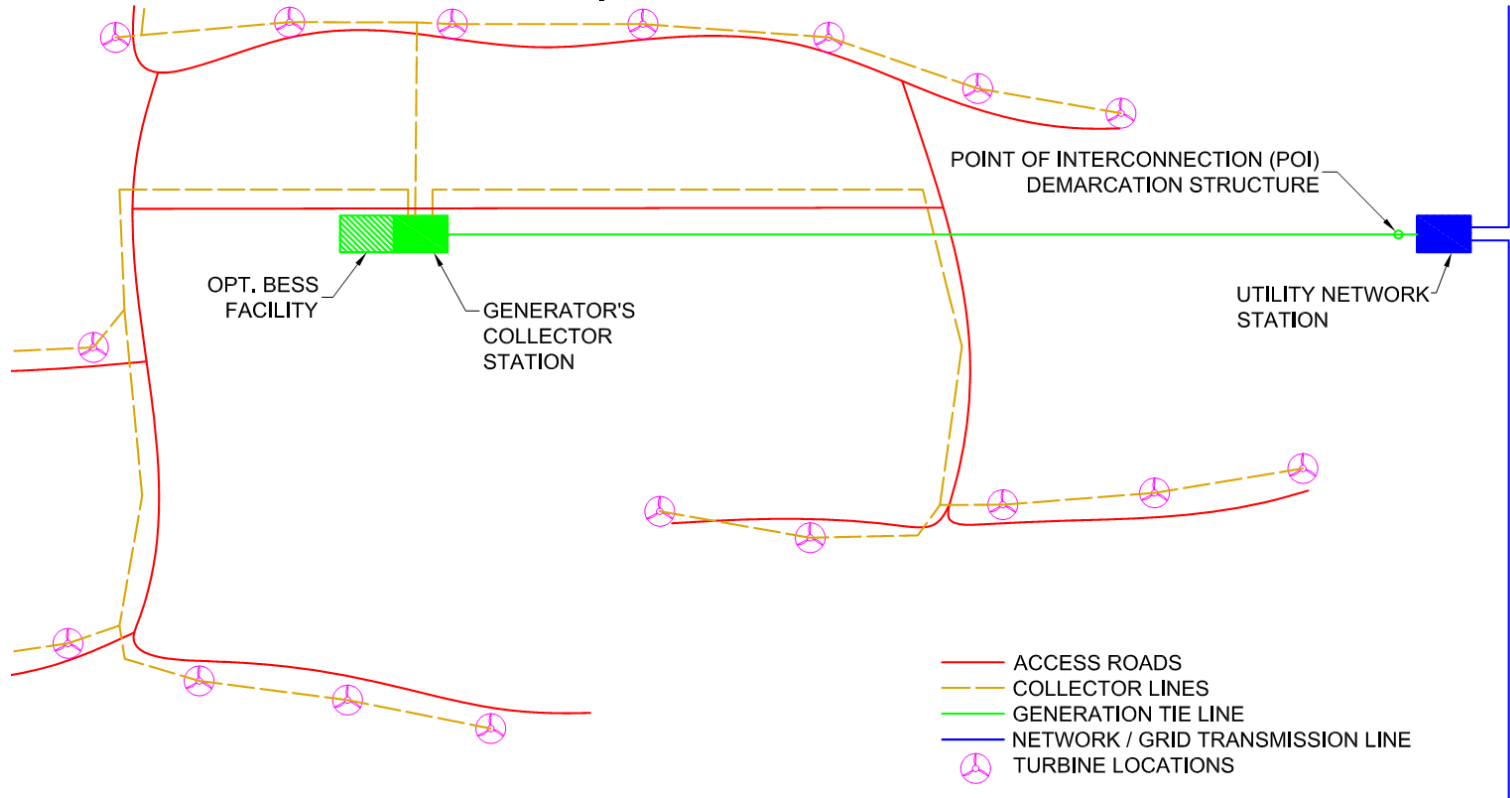


# Overview of Infrastructure

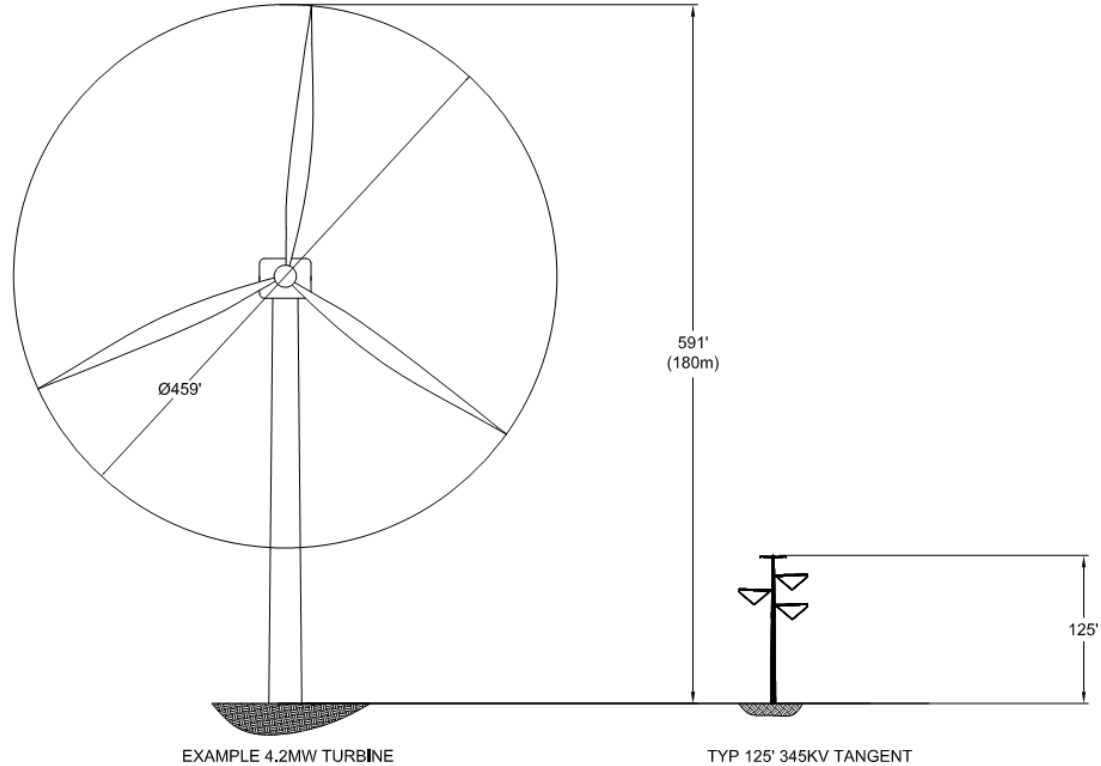
- Renewable Infrastructure
  - Wind Plant
  - Solar Plant
- Utility Infrastructure



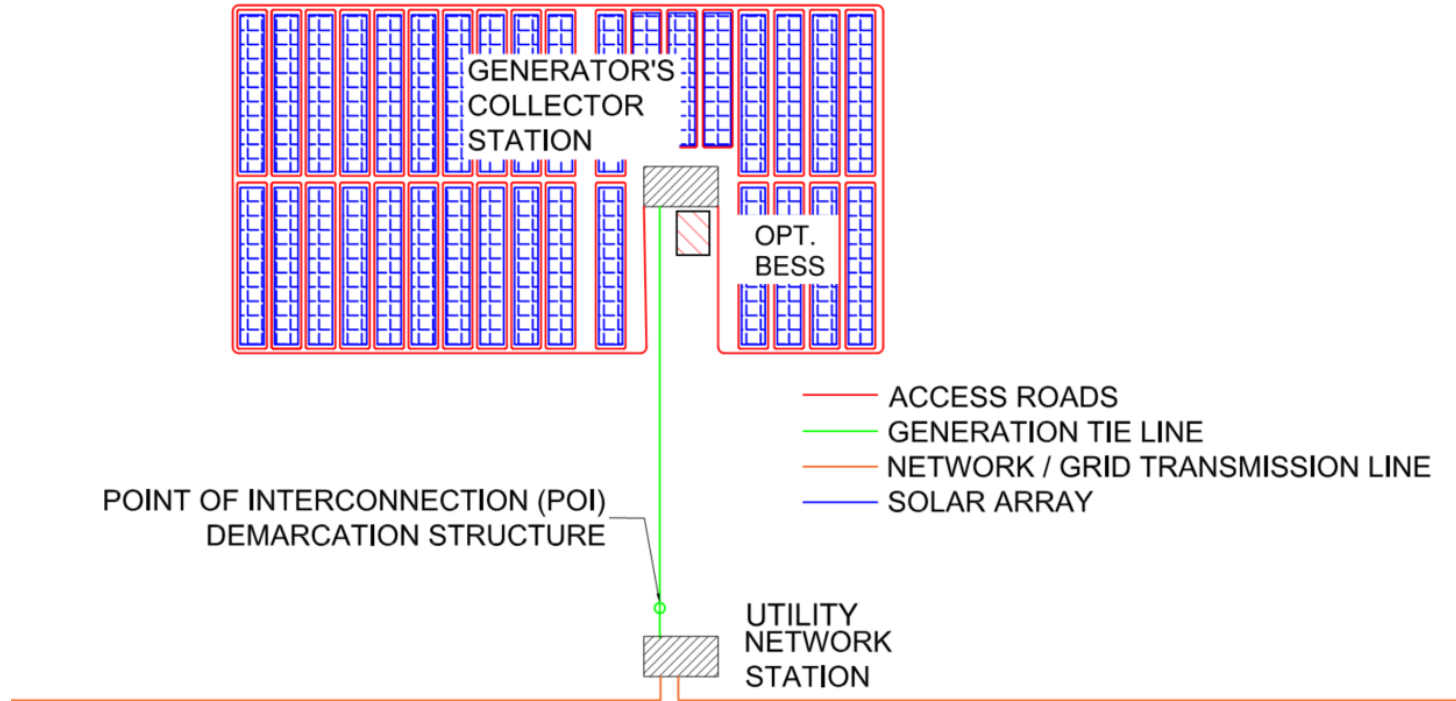
# Example Wind Plant



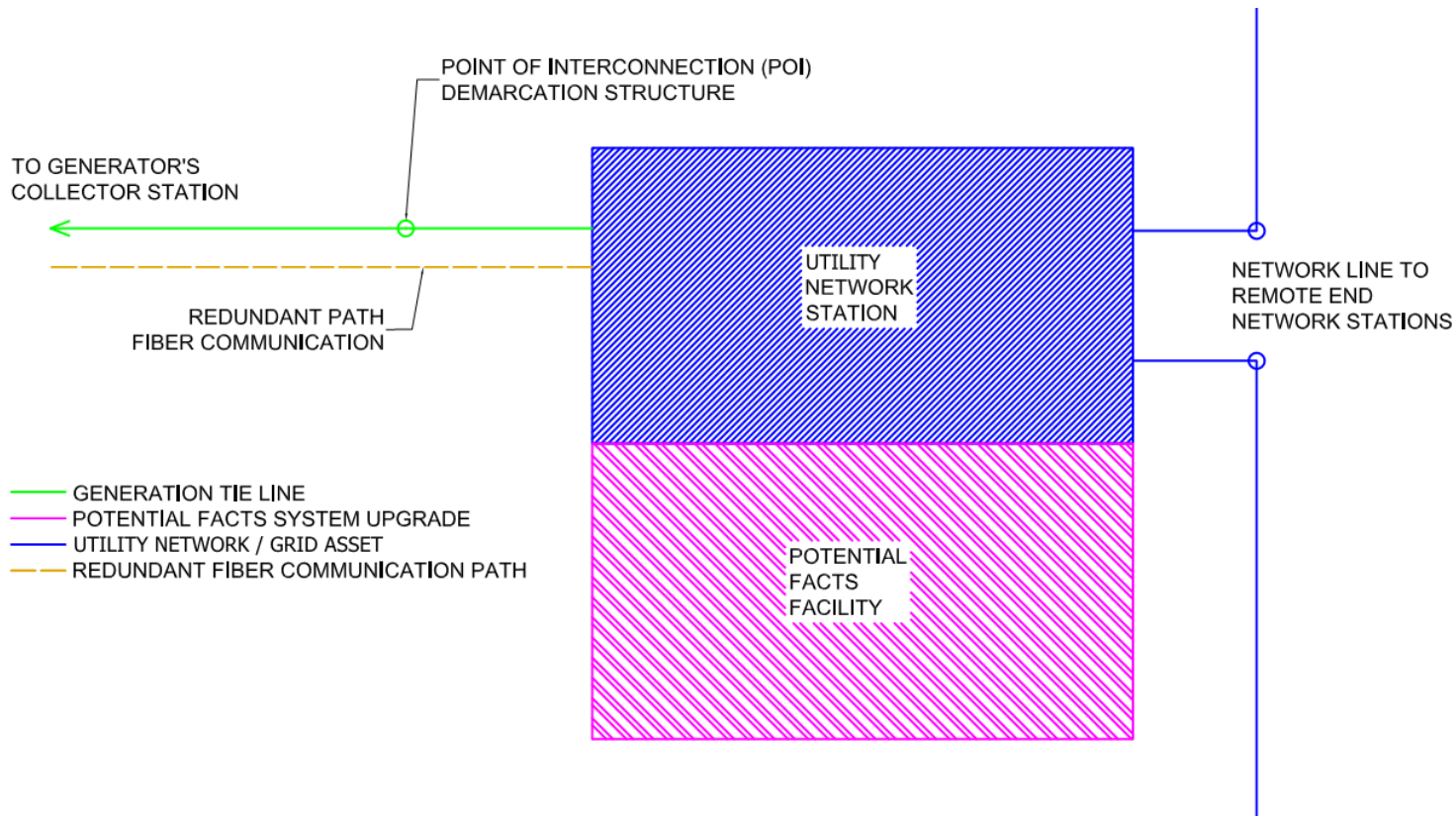
# Turbine and 345kV Tower Comparison



# Solar Plant Example

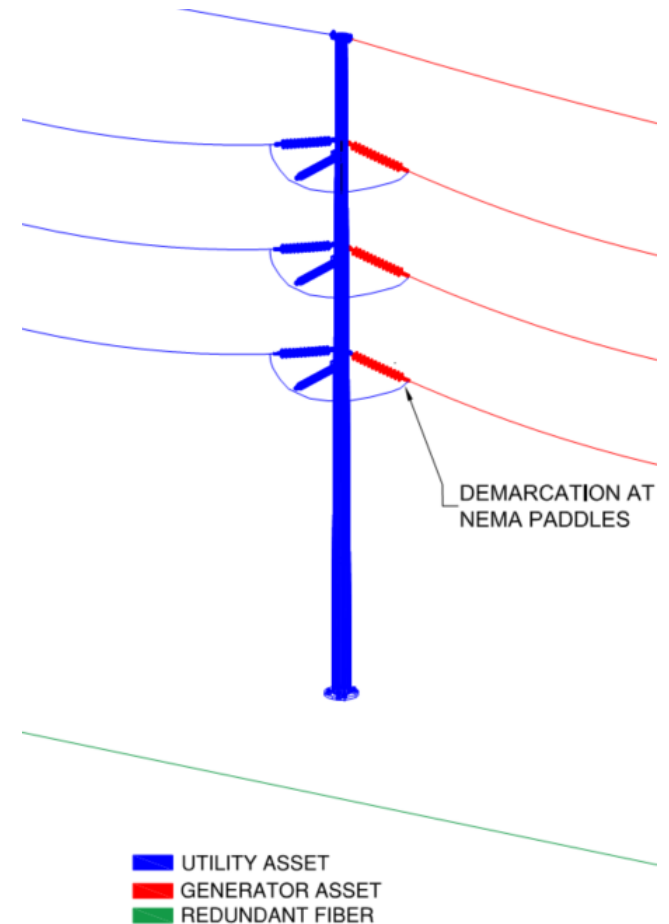


# Example Utility Infrastructure



# Point of Interconnection

- Point of demarcation often at jumper paddles
- POI may be on either side of the generation-tie (collector station or interconnection station)





# Utility Requirements

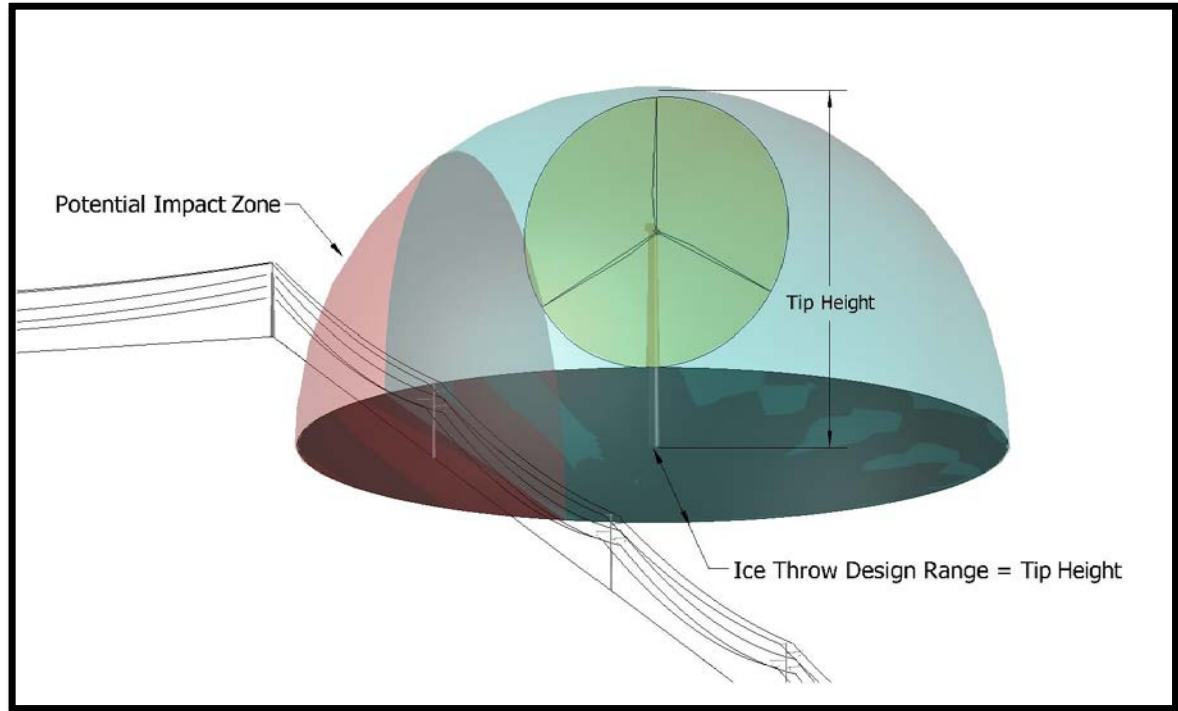


- Redundancy in fiber communications
- Crossing agreements
  - Collector lines
  - Access roads
  - Gen-tie crossing

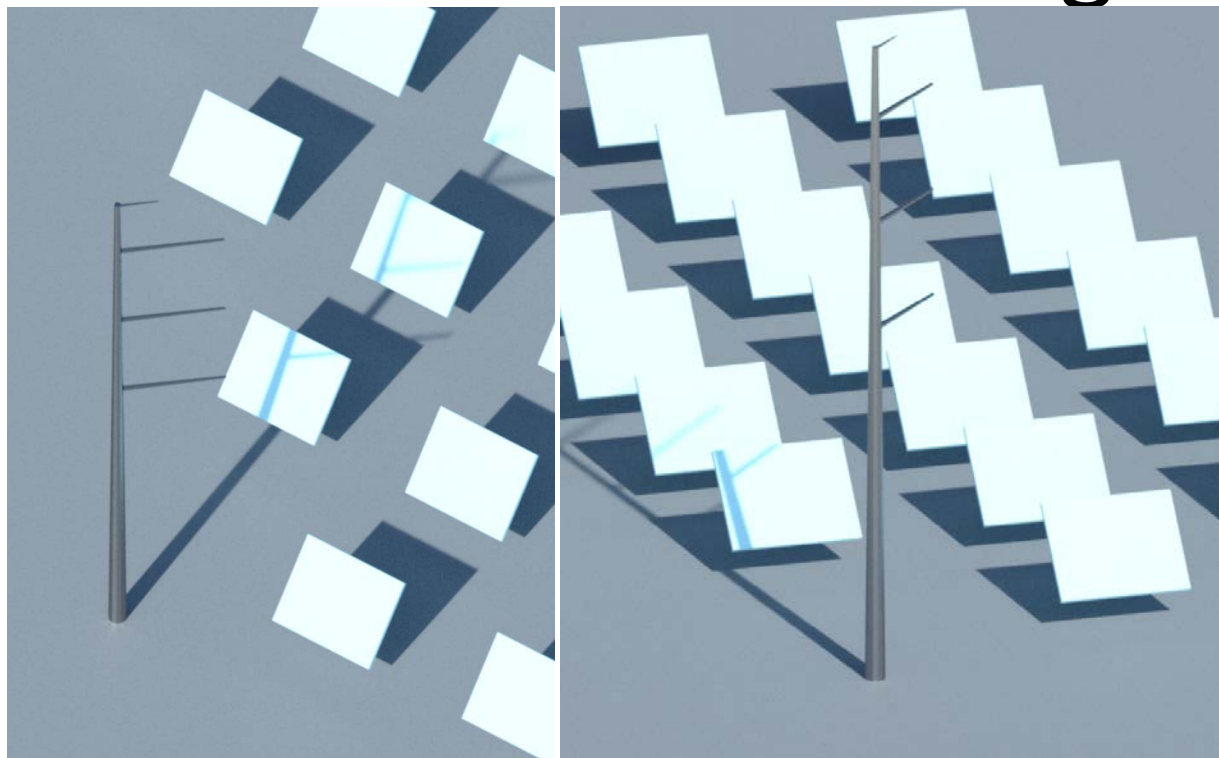


# Wind Plant & Utility Separation

- Ice Throw
- Construction
- Maintenance



# Solar Plant Shadowing



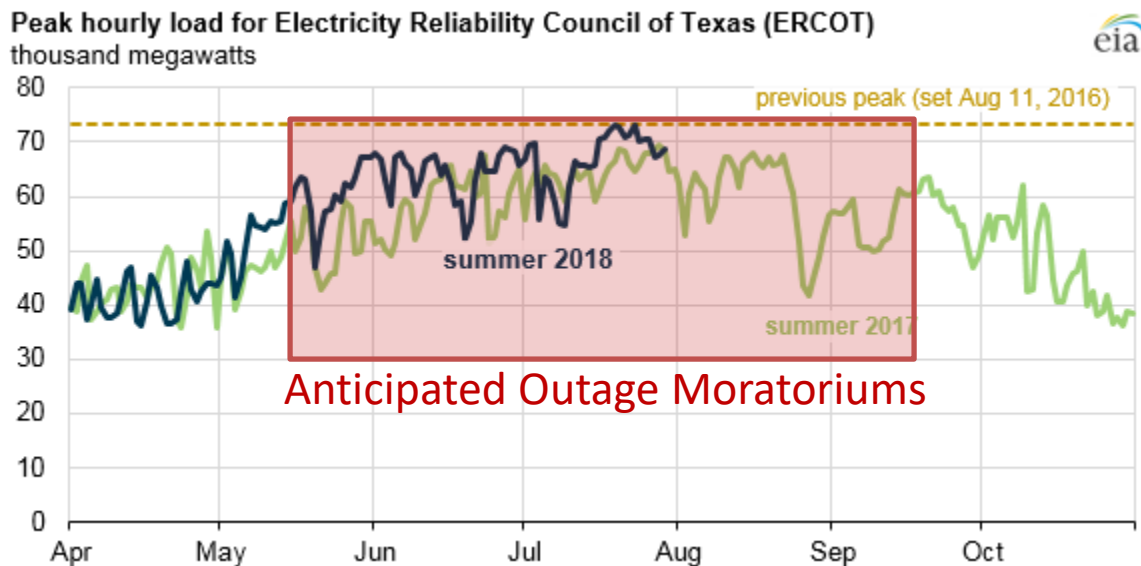
# Construction Challenges

- Access Roads
- Crane Clearances
- Wind delays
- Mitigating Vortex Induced Vibration



# Meeting In-Service Dates

- Commercial viability
- Liquidated Damages
- Outage moratoriums



Source: U.S. Energy Information Administration



# Keys to a Successful Interconnection Project



- Identifying all key stakeholders
- Early communication
- Constant collaboration
- Being proactive

