



SM 66 - Wind Turbine Decommissioning Update

WATER AND NATURAL RESOURCES COMMITTEE, November 7, 2019



Senate Memorial 66 - 2019

- The Memorial requests that the Energy, Minerals and Natural Resources Department (EMNRD) study how the state may best require assurances for the decommissioning of wind turbines and the restoration of lands used for wind turbine and farm siting;
- EMNRD should work with stakeholders including the state land office, the federal bureau of land management, representatives of the wind energy industry representative of New Mexico counties and other interested parties.
- EMNRD shall report findings to interim committee.

The Study

- EMNRD is working with the Western Interstate Energy Board (WIEB), organization of 11 western states and 2 Canadian provinces whose purpose is to provide the instruments and framework for cooperative state efforts.
- Study – A review of surveyed western states to identify the scope of legislation associated with wind turbine decommissioning, and to identify best practices.

Study Topics under Review

- Review existing wind turbine decommissioning procedures, practices, and requirements within western states and identify best practices
- Review of surveyed western states to identify the scope of legislation within the states associated with wind turbine end-of-life decommission and best practices
- Review best practices that states can pursue to establish better policies to ensure the protection of citizens, landowners, and developers alike.

Wind Turbine Installations

- 2018 – New Mexico hosted 24 wind turbine facilities with over 1,000 individual wind turbine towers (2018 Form EIA-860 data)
- Median facility operation startup date is 2011 (2018 Form EIA-860 data)
- Estimated useful life ranges from 20 to 40 years (<https://emp.lbl.gov/publications/benchmarking-anticipated-wind-project>)

What is Decommissioning?

- A process used to safely retire a facility. It includes all phases from deactivation of high energy systems, dismantling components and site remediation to return the site to a condition as close to the preconstruction state as possible.

Decommission or Repower?

- Reasons why repowering, rather than total decommissioning, is the expected outcome for most wind farms (source: developer):
 - Existing wind farms have been built on the areas with the best wind resource
 - Existing wind farms have infrastructure that can be re-used even if the turbines have reached the end of their useful life, such as substations, roads, and operations buildings. A substation alone is worth several million dollars.
 - Existing wind farms have the right to inject power onto the transmission system. As the system becomes increasingly constrained, these rights begin to have inherent value of their own.

Example: New Mexico Wind Energy Center – Repowered 2018

If decommissioning, what does it cost?

- Estimated costs range between \$30,000 and \$650,000 per wind turbine.
- With salvage values; the average net cost is about \$25,500 per turbine. (<http://texaslawreview.org/wp-content/uploads/2016/12/Stripling95.pdf>)
- Assuming new 3.0-megawatt (MW) turbines have a net decommissioning cost of \$55,000 after a 20-year life; a per megawatt-hour (MWh) rate to ensure funds are available for decommissioning is approximately \$0.35/MWh or \$2,750 per year over the life of the turbine. If cost is transferred to rates, an average residential customer would pay about \$0.32 per month (\$3.78/year) for decommissioning.

Decommissioning on State Lands

- “...Lessee will remove all above-ground Wind Power Facilities from the Land to a depth of thirty-six (36) inches, exclusive of any continuing right established pursuant to this Lease to survive the Term, and restore the soil surface to a condition reasonably similar to its original condition. If Lessee fails to remove such Wind Power Facilities as of the date this Lease expires, Lessor may sue for specific performance, seize Lessee’s improvements, and/or call upon Lessee’s performance Surety to complete decommissioning.” (SLO business lease, paragraph 3.2.4 Decommissioning Phase)

State Land Office Lease Requirements

- Decommissioning Surety: “an amount approved by lessor, in accordance with the terms of the lease providing for an amount sufficient to pay the restoration costs,” Surety may be updated annually and must remain in force until the completion all activities under the project plan.
- Restoration cost means the cost to restore the land pursuant to the Decommissioning Plan submitted as part of the Project Plans. The cost estimate is provided by a NM licensed independent engineer to the SLO for approval.
- A bond, irrevocable letter of credit, an irrevocable guarantee or other security, acceptable to the Commissioner