

HJ 38: WIND AND SOLAR

DECOMMISSIONING AND BONDING REQUIRED

Montana law requires owners of wind and solar generation facilities obtain a surety bond to secure the decommissioning of a facility. The bonding requirements also provide for remediation planning. However, there are exemptions under the law, and bond requirements are delayed at least 15 years.¹

To date, nine wind facility owners submitted a decommissioning plan to the DEQ.

As outlined in House Joint Resolution No. 38, the Environmental Quality Council (EQC) is tasked with examining state laws related to the bonding, decommissioning, and reclamation of energy facilities in Montana. Earlier in the year, the EQC explored requirements imposed on coal-fired power plants. A coal-fired power plant in Montana operates in accordance with the Montana Water Quality Act, the Clean Air Act of Montana, and federal Coal Combustion Residuals rules under the federal Resource Conservation and Recovery Act. Prior to 2001, power generation facilities in Montana were also subject to the Major Facility Siting Act. Those laws guide the remediation and bonding requirements at large energy facilities, like Colstrip.

Decommissioning and remediation for wind and solar projects in Montana is guided by requirements established in Title 75, chapter 26, part 3. In 2017, the Legislature adopted requirements for owners of wind facilities, greater than or equal to 25 megawatts to provide bonding and decommissioning plans. In 2019, the Legislature amended the act and added solar facilities, greater than or equal to 2 megawatts to the requirements.

In Montana, wind and solar facility owners, like other energy generators, aren't required to obtain a specific environmental permit from the state to construct a large energy generation facility. Other permits, however, may be required. A wind farm, for example, may need a storm water discharge permit. In Montana local governments also can use their traditional land use planning and zoning authority to regulate the development of wind and solar facilities within

¹ Title 75, chapter 26, part 3, MCA. (House Bill No. 216, 2017 and Senate Bill No. 93, 2019)

their jurisdictions. Setback requirements, for example, are common. The permitting or regulation occurs prior to the facility's construction.

Montana law requires the owners of wind and solar facilities to submit a plan for decommissioning the facility to the Department of Environmental Quality (DEQ), including the scope of decommissioning work to be completed and cost estimates for completion. The DEQ then will determine the amount of bond an owner should submit to satisfy the requirements.

OKLAHOMA EXAMPLE

Enercon Services, an engineering and environmental firm focused on energy generation, estimates that between 2017 and 2030, about 29,000 wind turbines will reach the end of their useful life. The American Wind Energy Association (AWEA) doesn't peg the numbers nearly as high. In 2017 only about 43 megawatts of installed wind capacity were fully decommissioned, according to AWEA. NextEra, the largest renewable developer in the country, also notes that modern wind farms are designed to operate for at least 25 to 30 years, and aging wind turbines are often replaced with newer technology to extend their useful lives.

The estimates by Enercon set decommissioning costs per turbine at about \$25,000. However, costs can vary depending on the type of turbines, location, and the ability to repurpose or repower generators.

Assumptions for decommissioning costs for wind are also largely based on the assumption that salvage prices will continue to mostly cover costs. Steel, copper and other metals that make up the generators have salvage value and can be recycled. "It's in a company's best interest to not let valuable machines sit abandoned—they can maximize value by reusing materials," according to the AWEA.²



Across the country, there are a variety of different forms of regulation related to the decommissioning, remediation, and bonding of wind and solar facilities. Many states leave wind and solar decommissioning entirely to local governments. Other states do not have specific statewide decommissioning rules but require a decommissioning plan to be submitted under certain circumstances. Other states require decommissioning plans and bonds for easements on state land and other bonding requirements are based on size.

² <https://www.awea.org/policy-and-issues/project-development/state-and-local-permitting/decommissioning>

Montana's statewide wind requirements are like those adopted in Oklahoma³. In 2010 Oklahoma enacted the Oklahoma Wind Energy Development Act. The state law provides requirements related to decommissioning, payments, and insurance. In 2015, the Oklahoma Legislature added new financial security requirements, setback requirements, and notification requirements for wind energy facilities. After 15 years of operation, wind energy facility owners must file an estimate of the decommissioning costs as well as evidence of financial security to cover the cost of the decommissioning. Oklahoma requires that the amount of the evidence of financial security be 125% of the estimate of the total cost of decommissioning, minus the salvage value of the equipment. The Oklahoma law also provides several landowner protections related to insurance and lease agreements.

North Carolina was one of the most recent states to implement decommissioning rules for utility-scale solar and wind farms. The requirements are due at the start of 2022.⁴ California and Hawaii also implemented statewide decommissioning rules that apply under certain circumstances and require some financial security for renewable projects.

PRIVATE CONTRACTS; FEDERAL REQUIREMENTS

Wind and solar generators generally sign legal agreements with private property owners to lease the land where facilities are built. Those agreements often set out requirements for remediation, particularly removal of generators and changes in road access.

Facilities constructed on federal land are often subject to Bureau of Land Management (BLM) decommissioning and bonding requirements. Facilities built on state land in Montana, must meet requirements established by the Department of Natural Resources and Conservation (DNRC). Those requirements include planning for decommissioning.

DEQ is coordinating with DNRC regarding facilities that have leases on state land to ensure that bonding requirements for leasing state land and the new wind and solar bonding requirements are consistent.

Some local governments in Montana also may require a plan for remediation at the end of a facility's useful life. This lifecycle can range from 20-40 years, depending on whether generators are repurposed or updated.

Federal Government entities including BLM, Department of Interior, and the Federal Energy Regulatory Commission require owners of facilities who have grants and leases for renewable facilities to post a form of bond and establish a decommissioning plan. BLM is the most active and relies on its authority in Title V of the Federal Land Policy and Management Act of 1976 and rights-of-way regulations to establish the requirements.⁵ The bond amount is determined based on the preparation of "reclamation cost estimates", but for solar, for example, must be no less than \$10,000 per acre of land disturbance. Acceptable bond instruments include cash, cashier's or certified

³ Oklahoma Statutes Title 17, Chapter 8, § 160.15

⁴ <https://www.ncleg.gov/Sessions/2019/Bills/House/PDF/H329v5.pdf>

⁵ 43 USC 1764(i) and 43 CFR 2805.20

check, certificate or book entry deposits, and negotiable U.S. Treasury securities. Federal decommissioning plans establish reclamation, revegetation, restoration, and soil stabilization plans for acreage.

MONTANA REGULATIONS

Montana's wind and solar decommissioning requirements apply only after a facility begins producing energy. The bonding requirements come into play when facilities begin to reach the end of their useful life. To date, nine wind facility owners notified the DEQ and submitted a decommissioning plan. The DEQ won't collect its first bond until 2022, when the 135-megawatt Judith Gap Wind Energy Center submits a bond. It began commercial operation in 2005.

By July 2019, the first nine facilities listed in **Table 1** were required to submit a decommissioning plan, in accordance with the law. The remaining five must submit a decommissioning plan by July 2020. However, if the facility owner reaches an alternative restoration agreement with the property owner where the facility is located, then a copy of that agreement suffices as a decommissioning plan. No wind owners to-date submitted alternative restoration agreements, but four of the nine wind facilities have indicated that they will be submitting landowner agreements for alternative plans for restoration. DEQ has not received the official commercial operation date from solar facilities (which will be outlined in the decommissioning plans due by July 2020) so the date for bond submission is TBD. Their bond, in general, will be due 15 years after their commercial operation date. The final decommissioning plan for a facility is due 12 months prior to the bond due date.

Based on the law, within 12 months of any new wind or solar facility commencing commercial operation, the owner submits a decommissioning plan to the DEQ. The DEQ determines the bond required based on a plan submitted the year before closure. The bond is forfeited if the owner fails to properly decommission the facility. Facilities built before the act went to effect, also have until July 2020 to submit decommissioning plans. If the facility is repurposed, bond isn't required, and any existing bond is released for another 5 years.

Bonding and decommissioning apply to any person that owns a wind or solar generation facility used for the generation of electricity. A wind generation facility is any combination of physically connected wind turbine or turbines, associated prime movers, and other associated property with a nameplate capacity of 25 megawatts or more. A solar facility is a combination of solar panels or plates, including a canopy or array, that captures and converts solar radiation to produce electricity and includes flat plate, focusing solar collectors, or photovoltaic solar cells that have a nameplate capacity greater than or equal to 2 megawatts.

Table 1 Wind and Solar Decommissioning Plans and Bonds				
Wind Farm	Capacity	Owners	Service Date	Plan Due/Bond Due
Judith Gap	135	Invenergy	2005	2021/2022
Diamond Willow	30	Montana-Dakota Utilities	2010	2024/2025
Glacier 1	106	NaturEner	2008	2022/2023
Glacier 2	103	NaturEner	2009	2023/2024
Rimrock 1 & 2	189	NaturEner	2012	2026/2027
Stillwater	80	Pattern Energy/NWE	2018	2032/2033
Greenfields	25	Greenbacker Renewable Energy	2016	2030/2031
Big Timber	25	Con Edison, Montana Wind Resources	2018	2032/2033
Spion Kop	40	Compass Wind/NWE	2012	2026/2027
Solar Farm	Capacity	Developers	Service Date	Plan Due/Bond Due
Green Meadow	3	Enerparc/Cypress Creek	2017	TBD
River Bend	2	Enerparc/Cypress Creek	2017	TBD
South Mills	3	Enerparc/Cypress Creek	2017	TBD
Magpie	3	Enerparc/Cypress Creek	2017	TBD
Black Eagle	3	Enerparc/Cypress Creek	2017	TBD

Information Provided by DEQ

MONTANA WIND AND SOLAR EASEMENTS

Montana's solar and wind easement laws allow property owners to create solar and wind easements for the purpose of protecting and maintaining proper access to sunlight and wind. They are different from remediation requirements, but in the case of wind, may overlap. The Legislature enacted Montana's solar easement law in 1979. An easement obtained for the purpose of exposure of a solar energy device must be created in writing and is subject to the same conveyancing and instrument recording requirements as other easements on real property.⁶ The wind easement law was enacted in 1983, but in 2011, the Legislature repealed it when it adopted a wind energy rights act.

Montana law provides a "Wind Energy Rights Act".⁷ The 2011 Montana Legislature enacted the law, which sets out parameters to protect property owners and rights. It establishes requirements for wind energy agreements. Agreements are wind energy leases, licenses, or any other written documents entered into between the owner of the real property and a wind energy developer that contains a wind easement. An easement is the right granted by the owner of real property to a wind energy developer guaranteeing the developer the right to use the property to develop a wind energy project.

Wind agreements include compensation for the owner of the real property where an easement is granted, and other terms and conditions agreed upon by the owner of the property and the developer. Those agreements also may capture some aspects of decommissioning, particularly those related to new roads and road access. The agreements also include provisions obligating the wind energy developer to comply with federal, state, and local laws and regulations. Montana's remediation and decommission laws are included.

DEQ RULEMAKING AND TIMELINES

Rules are under development to implement the solar decommissioning and bonding requirements implemented by the Legislature in 2019. Between October 2019 and January 2020, DEQ conducted stakeholder outreach and solicited feedback on informal rule drafts. In March 2020, DEQ hosted a public hearing. DEQ will file the final rule adoption notice with Secretary of State by May 19, 2020, and the final rule is expected to be published by the end of the month. DEQ will conduct initial outreach to impacted existing solar facilities notifying them of the rule adoption and requirement to submit their initial decommissioning plans by July 1, 2020.

Wind facilities impacted by the original rule adopted in January 2018 submitted comments that were generally supportive of the rule and requirements. In the recent proposed rule amendments for solar facilities, the owner of one existing wind facility submitted comments that raise concerns with new language pertaining to bonding being required for facilities of which portions are already bonded on state, local, federal, or tribal government property.

⁶ 70-17-301, MCA.

⁷ Title 70, chapter 17, part 4, MCA.

BOND VARIATIONS AND TIMING

The timing of the bond requirement in Montana's law is delayed. For example, if a facility started generating electricity before 2007, the operator doesn't submit a bond until the conclusion of the 16th year of operation. For facilities that started producing power after 2007, the bond is due after 15 years of operation.

The terms of the bond dictate that, if the owner of the wind or solar facility fails to submit a decommissioning bond acceptable to the department within the given time frame, the department may assess an administrative penalty of not more than \$1,500 and an additional administrative penalty of not more than \$1,500 for each day the failure to submit the decommissioning bond continues.

In determining the bond amount required, the department will consider the character and nature of the site where the facility is located and the current market salvage value of the facility. The decommissioning costs and bond estimates outlined in the decommissioning plans received to-date vary greatly -- from an estimated \$0 to about \$47 million. The large difference in decommissioning cost estimates is attributable to a variation in the estimates of salvage value for facility components, according to DEQ. Another factor is the extent that landowners have agreed or not agreed to keep roads, buildings, and other infrastructure associated with the facility in place after decommissioning.

Because of the variation, the DEQ plans to develop and provide to facility owners a standardized methodology for estimating decommissioning costs and calculating bonds associated with wind and solar facilities.

Acceptable bonding instruments are surety bonds or collateral bonds, letters of credit, and certificates of deposit. If the owner proves he or she is responsible under the terms and conditions of a lease agreement to provide private bonding, the DEQ signs off on that requirement, as opposed to holding the bond.

The law also allows for exemptions from surety bond requirements. Owners are exempt, if the owner posts a bond with a federal agency, the DNRC for the lease of state land, or with a tribal, county, or local government. The exemption also applies to private landowners owning a 10% or greater share of the facility on the land where the facility is located. This exemption is being interpreted to only cover the portion of property covered in the alternative agreement. For example, if 50 acres of a 150-acre wind farm are on state land, the bond with the DNRC for the state land only covers the 50 acres. The DEQ will request a bond to cover the additional 100 acres.



Members of the 2013-2014 ETIC tour the Judith Gap Wind Energy Center.

DECOMMISSIONING PLANS

Decommissioning plans outline steps to remove the generators, dispose of or recycle their components, and restore the land to its original state. Plans also generally include an estimated cost schedule and timeline. The plans received by DEQ meet the general requirements, however, their proposals and costs vary.

For example, NaturEner's plans for the 106-megawatt Glacier Wind Project I cover 16 miles of access roads and 19 miles of underground electrical collectors. The project is located entirely on private property. In the plan, NaturEner commits to full decommissioning and reclamation but also reserves the right to work with the private landowners as the facility reaches the end of its expected 25-year lifespan or is repurposed.

Decommissioning covers full removal of the wind turbine generators; removal of pad-mount transformers; foundation removal; removal of the electrical collection system; dismantling and removal of the overhead interconnection tie-line; some access road removal; removal of substations and maintenance facilities; dismantling, removal, and restoration of ancillary facilities; and debris removal. Based on landowner agreements or easement agreements with applicable oil and gas companies about half of the access roads are expected to stay in place. Decommissioning could be completed in about 20 weeks.

It is anticipated that the total decommissioning costs of the project will be entirely offset by the salvage value of the recovered materials. The decommissioning estimates are between \$11 million and \$12 million.

MDU's plan for the 30-megawatt Diamond Willow also demonstrates a commitment to full decommissioning and remediation. The facility is located on a mix of private and county property. The plan covers turbine removal, removal of collection systems, substation removal, removal of interconnection lines, operation and maintenance building removal, foundation removal, and road removal. Costs are estimated at about \$4.7 million, with about \$1.1 million recoverable by salvage sales. Decommissioning is expected to take about 7 weeks.

DEQ STAFFING AND BUDGETING

DEQ estimates the combined additional workload associated with the wind and solar bonding and decommissioning program is about .75 FTE. When the law passed in 2017 and was amended in 2019, the statute stated that DEQ needed to administer the program using existing resources. The Legislature did not provide additional funding to DEQ. Agency time and resources have focused on development and adoption of rules. Staff also spent time reviewing initial decommissioning plans from wind energy facilities. Staff have spent a considerable amount of time on the program, according to DEQ.

DEQ is covering the costs associated with developing the program with limited, existing resources. There is little, if any, discretionary funding available to fund new programs. Implementation of both the new requirements will require additional staff time. Without additional funding, DEQ will be limited in its ability to focus on stakeholder outreach associated with implementation of the program, according to DEQ. Additional resources will be needed, if the Legislature expands bonding and decommissioning requirements for other energy generation facilities.