

Senate Energy and Natural Resources Committee

Max Taylor 271-1403

SB 65-FN, relative to stormwater management for solar arrays.

Hearing Date: January 28, 2025

Time Opened: 9:10 a.m.

Time Closed: 9:55 a.m.

Members of the Committee Present: Senators Watters, Pearl, McConkey and Rosenwald

Members of the Committee Absent : Senator Avard

Bill Analysis: This bill exempts solar arrays from additional requirements not applicable to other types of development, requires a permit only if over 100,000 square feet of earthmoving or timber harvesting is involved, and renders unenforceable any contradictory administrative rules.

Sponsors:
Sen. Pearl

Who supports the bill: Sen. Howard Pearl, Sam Feigenbaum, Dale Knapp, Scott Williams, Lindsay Bourgoine, Griffin Roberge (Eversource), Sam Evans-Brown (Clean Energy NH), Meredith Hatfield (The Nature Conservancy)

Who is neutral on the bill: Philip Trowbridge (NH Department of Environmental Services), Amy Clark (Bureau Administrator, Alteration of Terrain Program, New Hampshire Department of Environmental Services), Josh Elliot (NH Department of Energy)

Summary of testimony presented in support:

Senator Howard Pearl
Senate District 17

- Senator Pearl introduced the bill, emphasizing that New Hampshire's stormwater regulations are outdated and impose unnecessary costs.
- Current rules require 3-4 acres of concrete stormwater basins for a typical 20-acre project, making many projects financially impractical.
- The bill brings New Hampshire's rules in line with neighboring states like Vermont, Maine, and Massachusetts, which classify solar panels as previous surfaces.

- Senator Pearl also stressed the importance of working with DES to refine the bill while ensuring solar development remains viable.

Sam Feigenbaum

Kearsarge Energy

- Kearsarge Energy operates 295+ megawatts of solar and storage projects across the Northeast, with 30+ projects in New Hampshire totaling 160+ megawatts.
- New Hampshire's DES stormwater rules significantly increase costs by treating most solar panels as impervious, requiring expensive stormwater basins.
- A typical 20-acre solar project requires 3-4 acres of concrete stormwater basins, costing millions of dollars and making many projects financially unviable.
- Neighboring states classify solar panels as pervious allowing more cost-effective and environmentally friendly designs.
- Many landowners oppose stormwater basins, as they limit future land use (i.e. farming, timber, or other development).
- The PV Smart tool, developed by the University of Minnesota and the National Renewable Energy Laboratory, offers a science-backed approach to determine actual stormwater impacts.
- Some projects in New Hampshire have already been canceled because they have become uneconomical under current DES regulations.
- Kearsarge actively collaborates with DES, but progress has been slow.
- Urgent action is needed to prevent further project failures.
- Senator Watters asked whether the approach of DES in defining pervious surfaces aligns with that of other states.
 - Mr. Feigenbaum responded that DES's position does not reflect the experience of developers in other states.
 - While DES claims that projects meeting certain spacing requirements may be considered pervious, in practice this applies only in very limited instances.
- Senator Watters followed up, asking if the requirement to build stormwater basins is universal or site-specific.
 - Mr. Feigenbaum confirmed that under NH's current approach, stormwater basins are required in nearly every case, regardless of terrain or land use, making many projects financially unviable.
- Senator Rosenwald asked whether the PV Smart tool accounts for the increasing severity of storms due to climate change.
 - Mr. Feigenbaum confirmed that the PV Smart tool is based on the latest science and incorporates modern storm modeling to reflect

current and future climate conditions, making it a more accurate tool than DES's current approach.

Dale Knapp

Walden Renewables

- Mr. Knapp is a licensed soil scientist and wetland expert with 20 years of experience.
- Walden Renewables primarily develops 20-megawatt projects, but in New Hampshire they have 13 distributed generation projects, each around 5 megawatts and covering 20-30 acres.
- Mr. Knapp emphasized natural vegetation and soil provide the best stormwater treatment and site stabilization, making additional stormwater structures unnecessary in most cases.
- Maine does not classify solar panels as impervious surfaces, regardless of panel spacing, unlike New Hampshire.
- The primary concern should be erosion control during construction, not long-term stormwater basins.
- Regular mowing and leaving grass clippings on-site enhance soil organic material, increasing stormwater absorption.

Scott Williams

Pathways Consulting

- Mr. Williams is a professional engineer specializing in stormwater management.
- Mr. Williams stated that the current DES Alteration of Terrain rules for solar arrays, specifically Section 1511, create unnecessary burdens compared to other types of development.
- These regulations add significant costs to project design, application processes, and construction, making solar development economically unfeasible in many cases.
- The solar-specific stormwater rules do not follow established science that has been widely accepted, citing the TR-55 method.
- DES regulations may actually increase the risk of flooding and water contamination due to unnecessary construction impacts.
- Centralized stormwater basins disrupt natural absorption patterns, causing higher runoff rates and potential downstream flooding.

Lindsay Bourgoine

Revision Energy

- Ms. Bourgoine outlined the differences between New Hampshire and Maine in the threshold for stormwater modeling:

- In Maine, stormwater modeling is only required for projects exceeding 20 acres.
 - In New Hampshire, modeling is required for any project impacting 100,000 square feet.
- Ms. Bourgoine presented a cost comparison between New Hampshire and Maine solar projects:
 - Maine (10–20-acre projects): \$5,000 total stormwater costs.
 - New Hampshire (10–20-acre projects): \$175,000 total stormwater costs.
- Ms. Bourgoine concluded that unnecessary regulatory red tape in New Hampshire is making solar project cost-prohibitive, especially compared to Maine and other neighboring states.
- She strongly advocated for reforms to bring New Hampshire’s policies in line with those of other states.
- Senator Watters asked whether it would be reasonable to include an exception in the legislation that allows DES to require storm basins or other arrangements on a case-by-case basis, rather than applying a universal requirement.
 - Mr. Feigenbaum responded the PV Smart Calculator already serves as a middle-ground solution. The tool utilizes site-specific modeling to determine when additional stormwater measures are necessary.

Sam Evans-Brown
Clean Energy New Hampshire

- Mr. Evans-Brown stated the DES rules were initially introduced as guidance, Clean Energy New Hampshire flagged concerns about their potential impact. However, at that time, there were not enough active solar projects in the state for industry members to fully understand the practical effects of the regulations.
- Mr. Evans-Brown said that Clean Energy New Hampshire has worked to engage with DES to find a compromise but has not had the success they had hoped for.
- Mr. Evans-Brown emphasized that New Hampshire is experiencing electricity load growth for the first time in decades, citing ISO New England’s projection of a 500 megawatt increase in peak load by 2033.
- Mr. Evans-Brown stated that solar and battery storage are the only energy generation projects currently being proposed in New Hampshire to meet this demand. He stated if regulations prevent solar projects from being built, New Hampshire could face electricity shortages in the future.

- Mr. Evans-Brown acknowledged DES has legitimate environmental concerns but argued that regulations must be based on sound science.

Griffin Roberge

Eversource

- Mr. Roberge stated Eversource views this bill as a positive step toward enabling greater solar development in New Hampshire.
- Passage of SB 65-FN would help streamline the permitting process for solar projects, reducing both development costs and permitting timelines.

Neutral Information Presented:

Phil Trowbridge

Manager of Land Resources, New Hampshire Department of Environmental Services & Amy Clark

Bureau Administrator, Alteration of Terrain Program, New Hampshire Department of Environmental Services

- Ms. Clark provided brief testimony clarifying a point regarding DES regulations on solar panels and stormwater treatment requirements.
- Ms. Clark stated DES rules do not currently mandate specific stormwater treatment for either pervious or impervious surfaces related to solar panels.
- Mr. Trowbridge stated DES does not take a position on SB 65-FN but disagrees with some of the characterizations of DES rules.
- Mr. Trowbridge stated that solar developments differ from traditional land uses such as big-box stores or subdivisions because they often involve sloped surfaces rather than graded, level ground.
- Mr. Trowbridge highlighted that DES developed its current rules to prevent the types of severe water quality issues seen in neighboring states where solar projects have caused significant erosion.
- Mr. Trowbridge emphasized that DES evaluates stormwater impacts on a site-specific basis rather than applying broad generalizations.
- Additionally, he stated that DES is open to modifying rules over time and has already engaged in discussions with the solar industry.
- Senator Watters asked whether battery storage facilities would be evaluated separately from solar panel installations in terms of siting and permitting.
 - Mr. Trowbridge responded if a battery storage facility is located within a solar panel site, it would be considered part of the overall project. However, if it is on a separate parcel, it would require a distinct permit.

- Senator Watters requested a response to claims that other states regulate solar stormwater impacts differently, particularly regarding acreage thresholds.
 - Mr. Trowbridge explained that New Hampshire's Alteration of Terrain statute sets permitting thresholds at 100,000 square feet (2.3 acres), which is consistent across different types of development.
 - He noted that while some states use different thresholds or permit-by-rule systems, New Hampshire's approach ensures that projects do not disrupt local hydrology.
- Senator Watters asked whether the legislation should assume solar panels are pervious while allowing DES to impose conditions on a case-by-case basis, rather than the current system that presumes imperviousness and requires developers to prove otherwise.
 - Mr. Trowbridge responded DES already allows flexibility in its rules.
 - He clarified that DES does not consider all solar panels to be impervious; rather, the determination depends on factors such as slope and panel spacing.
 - He stated the PV Smart Calculator used by the solar industry and DES' internal methodology are based on the same principles, but DES applies a slightly stricter threshold.
- Senator Rosenwald asked whether legislative action is necessary to prompt DES to reconsider its rules or whether DES could modify them independently.
 - Mr. Trowbridge stated DES could modify its rules through administrative rulemaking. However, he acknowledged that the legislature could set a requirement or deadline for DES to update its regulations.
 - He reiterated that DES believes site-specific evaluations are the best way to manage stormwater impacts rather than broad legislative mandates.
- Senator Rosenwald questioned how DES views the difference between a Walmart parking lot, which is clearly impervious, and a solar farm where panels have spaces between them.
 - Mr. Trowbridge described a scenario where water flows off a row of panels onto a steep slope, forming a concentrated runoff and causing erosion.
 - He emphasized that DES rules aim to prevent such situations by accounting for slope, spacing, and other site-specific conditions.

- Senator McConkey asked for clarification on when DES classifies solar panels as impervious based on slop and spacing.
 - Mr. Trowbridge stated DES uses a tiered approach based on slope categories: 0-8%, 8%-15%, 15% and above. He stated that it is in the 8%-15%, depending on the soil type and spacing, where solar panels are classified as impervious.

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Date Hearing Report completed: January 31, 2025