

VINEYARD WIND 1 AIRCRAFT DETECTION LIGHT SYSTEM

INFORMATION AND UPDATE

May 2026

The Vineyard Wind 1 (VW1) Aircraft Detection Light System (ADLS) has been successfully integrated into all 62 wind turbine generators. VW1 voluntarily agreed to install ADLS early in the permitting process to mitigate concerns raised by Nantucket and Martha's Vineyard. Background information and updates on the ADLS system are provided below.

Background

ADLS is a relatively new technology approved by the Federal Aviation Administration primarily used on wind farms. VW1 is the first project to operate it offshore.

ADLS uses radar surveillance systems to track aircraft flying in proximity to the Vineyard Wind 1 Project (Project). The Terma Scanner 5202 Radar is installed on the offshore substation to detect aircraft approaching within three nautical miles of the Project. Once an aircraft is detected, the ADLS system activates the FAA aviation obstruction lights on each turbine causing them to blink. The radar tracks the aircraft until it departs the area, at which time the lights are deactivated by the system.

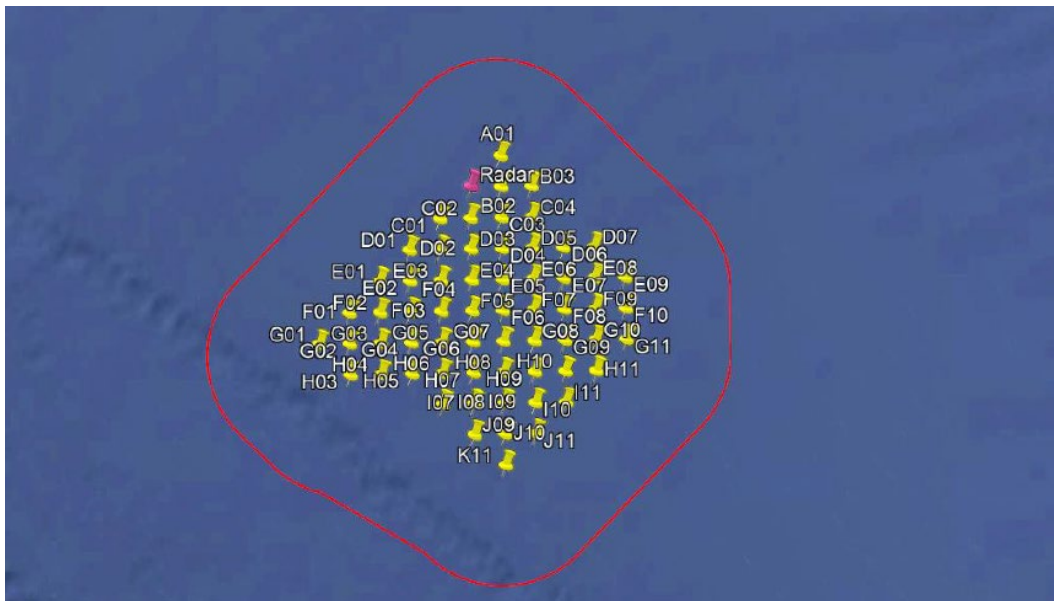


Figure 1 Project Area with 3NM radar warning zone. The red pushpin indicates location of the radar.

Updates

In 2025, Vineyard Wind received numerous inquiries regarding the aviation lighting and the ADLS system. In coordination with Terma, VW1 undertook an assessment to better understand the system operations. It appears that flight patterns into Nantucket Airport have changed somewhat causing more flights to fly directly over offshore substation where the radar is located.

When an aircraft flies directly over the radar, it enters the radar's blind spot (referred to as the "cone of silence") causing the radar to drop the aircraft it is tracking. Most ground-based radar systems, including those used by air traffic control, have a cone of silence.

If the radar drops a target, FAA regulations require the lights to remain on for 30 minutes to ensure the safety of the aircraft. It appears that planes arriving from the east are now crossing the radar's cone of silence when lining up to land at Nantucket Airport, whereas previously, flights were lining up more to the north of the offshore substation. The figure below compiles flight tracks over six nights in July 2025 and illustrates how the radar drops the aircraft being tracked when it flies over the radar.



Figure 2 Flight tracks over six nights in July 2025

Once this issue was properly identified, Vineyard Wind began working with Terma to identify potential mitigation measures. Terma is in the process of acquiring equipment that should optimize the system's ability to maintain aircraft tracking over the cone of silence. Vineyard Wind is actively working with Terma on resolving this issue and will provide updates as more information becomes available.