

Blade Incident Response and Action Plan Overview

Vineyard Wind Project Overview

- Powers the equivalent of 400,000 homes and businesses in Massachusetts
- Creates regional energy savings for customers totaling over \$1.4 billion during life of project
- Already created more than 2,000 U.S. jobs to date, including over 1,000 union jobs - doubling the original commitment
- Reduces carbon emissions by > 1.6 million metric tons, equivalent to removing 325,000 cars off roads annually
- 62 total turbines off coasts of Nantucket, Martha's Vineyard, Cape Cod



AW-38 Blade Incident: Overview

- July 13, 2024 (approx. 6 pm): Blade experienced damage on turbine AW-38 while undergoing testing
- No injuries reported from the incident to date
- AW-38 immediately shut down through automated safety controls. Remaining turbine operations and construction activity halted & 500-meter safety zone created by United States Coast Guard
- Activated existing incident management protocols
 - Tailoring as needed to situation
 - Notifications to Coast Guard and regional emergency planning committees
 - Mariners' notices issued
- U.S. Bureau of Safety & Environmental Enforcement (BSEE) issued suspension and preservation orders
- Immediate focus: Unity of effort to ensure personnel safety and assist in the clean-up and recovery of debris through a combined land/air/sea operation



Plan to Recover AW-38 Blade

- GE Vernova and Vineyard Wind have developed a comprehensive plan to recover the remaining AW-38 blade in incremental steps
- Exhaustive preliminary root cause analysis completed with independent ultrasound testing (UT) review identifying specific and readily identifiable manufacturing deviation at issue
- Thousands of combined work-hours devoted to plan development, review, and testing
- Safety of personnel intensely scrutinized both within the plan and against all available alternatives to arrive at safest approach to successful operation
- Federal Interagency review to oversee and guide plan development and implementation
- Crews have inspected turbine for safety and integrity
- Containment of any potential debris release a key component at every step

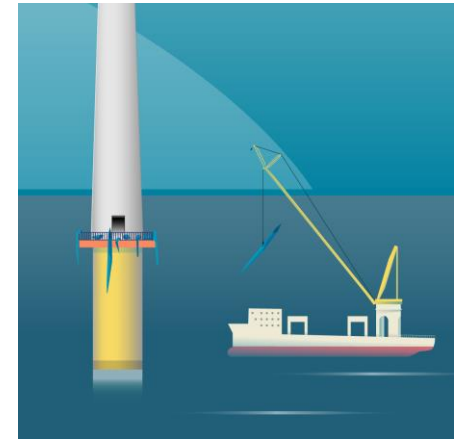


Action Plan: AW-38 Blade Removal

- Blade removal operations entail four tasks, developed in alignment with Resolve Marine, one of the world's leading salvage companies:
 - Blade rotations to reduce hanging blade and possible controlled cutting
 - Remove root of the blade from the hub
 - Remove fallen debris from the platform
 - Address seabed debris
- Each independent task undertaken under close supervision of the Federal Interagency



BLADE ROTATIONS,
POSSIBLE CONTROLLED CUT



REMOVE DEBRIS
FROM PLATFORM



REMOVE ROOT



ADDRESS SEABED DEBRIS

Coast Guard can remove the 500-meter Safety Zone when it concludes threats to personnel and marine navigation have been addressed.

Debris Containment Remains a Top Priority

- Land, Air & Sea: Robust recovery system monitors, contains, and collects debris
- Trained Incident Management Team (IMT) leads from New Bedford
- Vessels, aerial reconnaissance, and US Coast Guard models used to track debris trajectory and to appropriately direct needed recovery resources along shorelines
- Crews of trained personnel standing ready across Nantucket, Martha's Vineyard, and other coastal communities
- All recovery efforts coordinated with appointed shorebird monitors on local beaches
- Continue providing information to Tribal Nations, federal, state, and local officials and first responder agencies on potential debris impacts



Environmental Review

Committed to ongoing environmental assessment of blade event
working together with federal, state, local and tribal partners

Initial Assessment



*Framework for Other
Impacts*



Multistep Process

The initial assessment concluded that the primary risk of the debris is physical contact with fiberglass. It also noted blade debris is presently considered inert and stable.

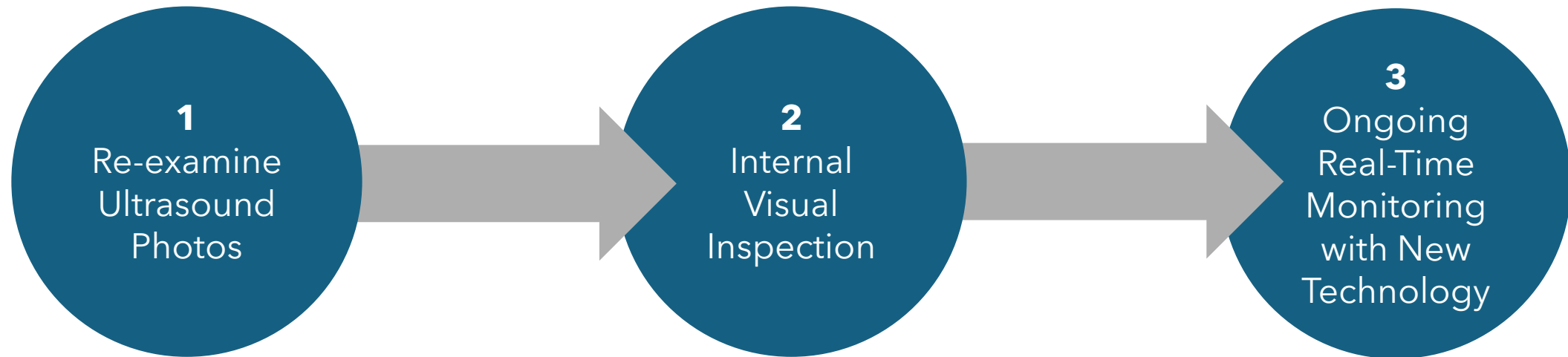
Assess potential future impacts of remaining blade debris on human health, shellfish, marine life, and natural resources. Focus on physical contact, chemicals, and microscale particulates.

The assessment will advance the initial work in several phases: information gathering; fate and transport analysis of blade material; potential site-specific assessments.

Blade Readiness for Service

Preliminary Root Cause Analysis to be assessed independently by Gulf Wind Technology, a premier wind turbine engineering firm

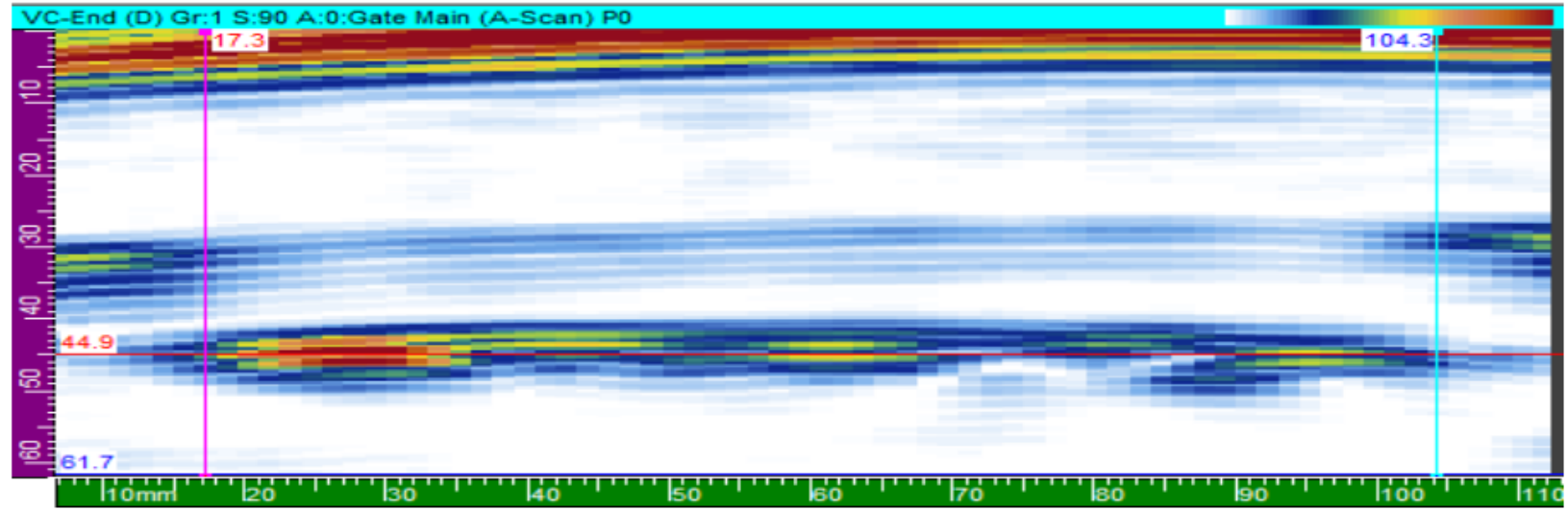
3-Point Approach for Return to Service



New blades installed and others returned to service only after undergoing thorough 3-point approach

1

Re-examine Ultrasound Photos



- 8,300+ ultrasound images per blade, preserved from the manufacturing process, are being re-processed to measure bonding widths in the blade. Any anomalies identified will be reviewed and remedied as required.
- Review has already started.

2

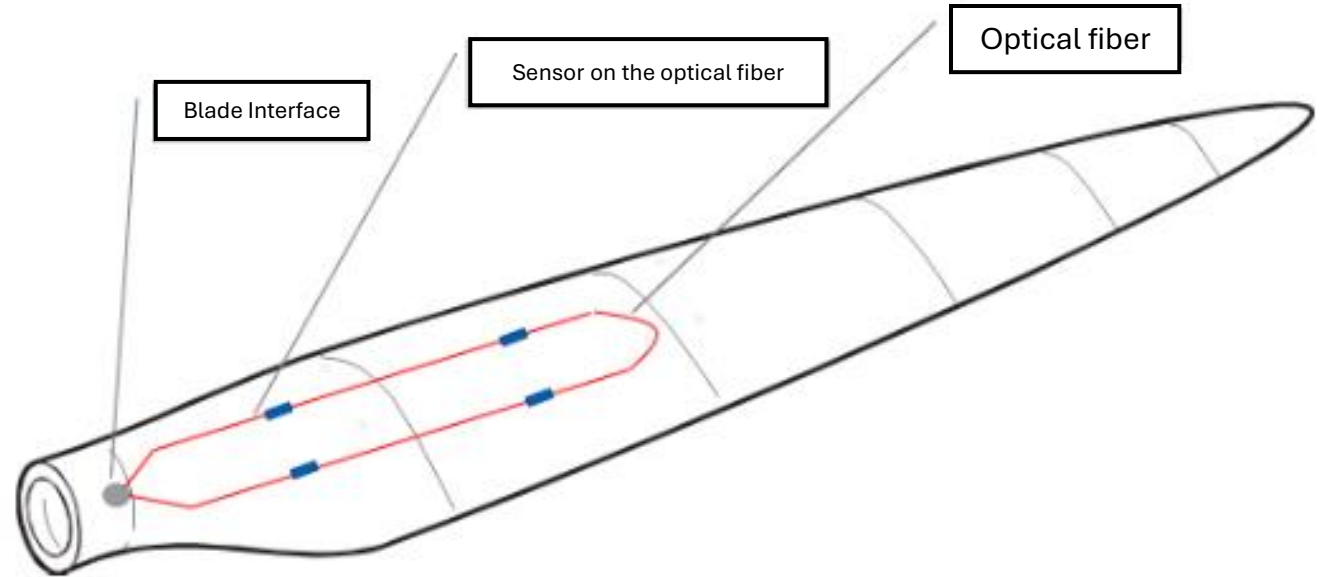
Internal Visual Inspection



- Advanced remote-controlled robots called “crawlers” are inserted into the manufactured blades to allow for visual inspection of the blades.
- Crawler is equipped with video camera to visually inspect critical areas of the blade with photos and video.
- Visual inspections have begun

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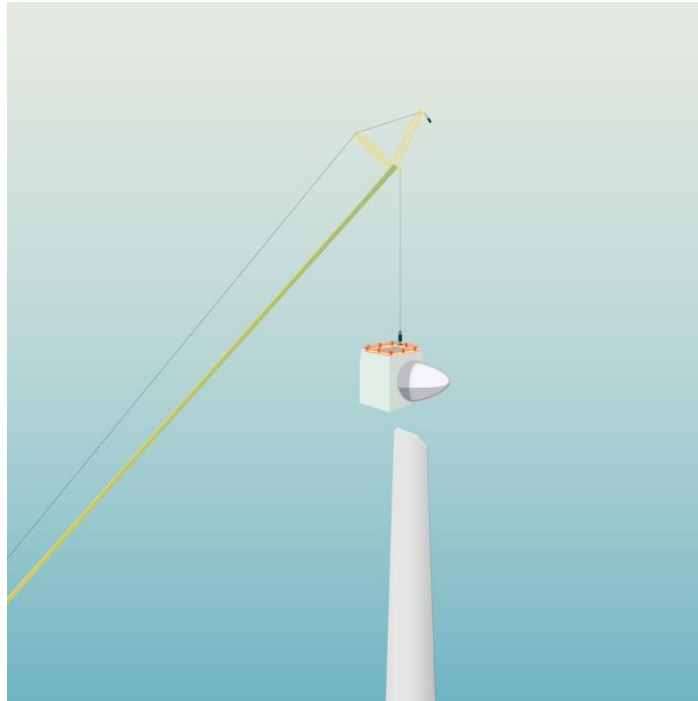
Ongoing Real-Time Monitoring with New Technology



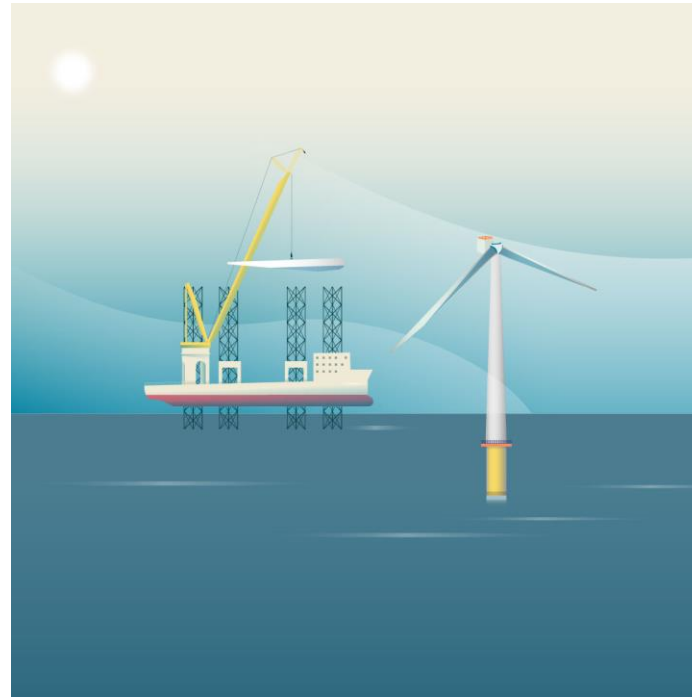
- GE Vernova is deploying a new algorithm, using existing sensors already in the blade, monitoring blade health to avoid similar events. The algorithm will provide advanced warnings or automatic, safe turbine shutdown when required.

Action Plan: Resume Turbine Installation & Restart Operations

Beyond AW-38 blade removal, in-depth coordination with Federal, Tribal, state, and local stakeholders to ensure the safe restart of project construction and operation with enhanced communications at all levels



RESUME TOWER + NACELLE
INSTALLATION (NO BLADES)



CONTINUE BLADE INSPECTION +
RESUME BLADE INSTALLATION



RESUME POWER PRODUCTION
IN COMPLIANCE WITH
FEDERAL INTERAGENCY PROCESS

Working with the Federal Interagency to ensure all operations are in compliance with all applicable orders, permits, regulations, and laws

Vineyard Wind and GE Vernova are committed to safely removing the damaged blade, monitoring for and collecting any debris, assessing any environmental impacts, inspecting all of the other project blades, and safely restarting the project to deliver needed clean power and jobs to the New England region all while jointly complying and coordinating with the Federal Interagency.

