Guidance Note on Ice Throw

An incident on a windfarm in Scotland highlighted a hazardous Ice Throw event.

Operational Guidance

Access to turbines by site personnel should be restricted if ice is present. If turbines must be approached, they should be safely shut down remotely, the rotor should be yawed to opposite side of tower door, parking should be at least 100m from turbine, PPE should be worn, and the turbine should be restarted remotely once work has been completed.

Checklist

	Check	Yes	No
1	Has snow, freezing rain or freezing fog occurred during the last 24 hours?		
2	Has the temperature at any stage dropped below 37°F/3°C during precipitation? *		
3	Is ice/compacted snow visible on any part of the turbine? (use binoculars)		
4	Has any ice or compacted snow fallen off the turbine in the last 24 hours?		
5	Is there ice or compacted snow formations present in the vicinity of turbine?		
6	Is the current temperature between -2 and +2 degrees Celsius (28°F and 34°F)?		
	• If NO to all of the above questions, proceed with work as usual		
	• If YES to any question above, do not approach the turbine unless steps highlighted in the Toolbox Talk below have been completed		

*The definition of precipitation is any form of water – liquid or solid – falling from the sky. It includes rain, sleet, snow, hail and drizzle plus a few less common occurrences such as ice pellets, diamond dust and freezing rain.

Toolbox Talk - Primary Inspection of Turbine for Ice/Snow

1. Stop approximately 300 meters from any turbine in operation or 1.5 x (hub height + rotor diameter)
2. Observe turbine and surrounding area from a distance (specifically for signs of ice on the ground, blade inconsistencies and/or ice hanging from the nacelle)
3. If ice is detected, refrain from approaching the turbine and inform your supervisor of the conditions
4. Proceed with ice stability checks and mitigation
5. If no falling ice is observed, proceed to a distance of 90 meters away
6. Repeat the ice stability observation
7. Any ice on blades, on top of the nacelle or along tower sections may prove difficult to see
8. Please note that ice condition/stability can change rapidly due to temperature rise or change in wind direction making it possible for ice to begin shedding
9. The main danger is when the turbine is yawing or when it starts rotating

If you have any questions, please feel free to contact us.

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