

# Wind turbine inspection - effective decommissioning planning

## Client Challenge

Repsol Sinopec, a prominent energy conglomerate, enlisted ICR's Sky-Futures™ drone inspection team to perform a thorough assessment of two wind turbines situated in the Beatrice oil field, located in Scotland's Moray Firth. The turbine's support structures and blades exhibited various forms of damage and irregularities, including cracks and compromised safety components, previously identified by rope access personnel. Furthermore, as the turbines were due to reach the end of their service life in the next five years, it was crucial to visually confirm the structures' overall condition and ensure their continued functionality.

## What We Did

Utilising decades of experience of both piloting unmanned aircraft, conducting challenging offshore inspections and remote sensing operations, our team deployed to the site using the crew access vessel as a launch point. Here they conducted a number of drone flights and gathered a large dataset of imagery to carry out the visual inspection of the condition of the turbines. This method reduced the exposure of personnel to working at height and enabled a swift and thorough inspection.



no evidence of further deterioration. However, the inspection did reveal additional areas of concern, previously unaccounted for, which were meticulously documented and incorporated into a comprehensive inspection report. This report was then delivered to the client via our secure online portal to ensure optimal safety and confidentiality.

At the same time, we assessed the following component areas of the two turbines to identify any potential dropped objects, or other conditions which could impact the safe decommissioning of the turbines:

- Turbine blades
- Nacelles
- Support towers
- Jackets
- Access platforms

An additional report was issued to the client for use in their planning.

## Results

Our team carried out the inspection safely and well within the planned time for deployment. They were able to launch the drone system from the crew transfer vessel and didn't need to access the turbine base at any point. This approach saved time and further reduced the exposure to risk from being able to use a drone equipped with a large format still image camera system, rather than having rope access personnel descend the blades.

The detailed reports and accompanying imagery provided the client with a comprehensive understanding of the condition of the turbines and their support structures, serving as a crucial component of their decommissioning strategy.



Reduced risk



Time saved



Clear data enabling better planning