CUSTOMER REFERENCE OUTCOME / CONTROLLED PUBLIC USE

Forty-Eight Turbines Agree on Rotation

ENERGY / NORTH SEA

CUSTOMER: Aster Bank Wind Cooperative
REFERENCE STATUS: VERIFIED
DISCLOSURE: CONTROLLED PUBLIC USE

41%

LESS ROTATIONAL DISAGREEMENT

> All turbines now agree on which way they are turning.
>
> OPERATIONS AND YIELD DIRECTOR



DEPLOYMENT AND ACCEPTED RESULT

From Operating Condition to Outcome

CHALLENGE

Four control groups disagreed by up to 0.7 degrees on shaft phase. Conventional correction increased the dispute because each controller adjusted against telemetry received from a different present.

DEPLOYMENT

Four AFR-8 frames reconciled nacelle telemetry across forty-eight turbines against one HRO-12 authority. Pre-input torque samples were retained but removed from commercial yield calculation.

ITEM	FUNCTION	QUANTITY	STATUS
HRO-12	Reference authority	1	Accepted
AFR-8	Reconciliation frame	4	Accepted
SPI-48	Shaft interfaces	48	Accepted
Predictive rows	Pre-input telemetry	117	Excluded

RESULT

Reportable rotational disagreement fell by 41 percent. No turbine now enters two maintenance states at once.

EVIDENCE BASIS AND VERIFICATION BOUNDARY

True Within the Agreed Boundary

INCLUDED IN OUTCOME	SEPARATELY GOVERNED
Accepted SCADA intervals	Rows preceding wind input
Forty-eight commissioned turbines	Negative-duration gust events
Mechanical shaft observations	Telemetry without receiving time
Grid settlement periods	One nacelle awaiting its event

VERIFIED FINDING

All observed torque followed wind input after removal of non-causal rows.

CONTROLLED DISCLOSURE

The excluded rows remain mechanically accurate. Their commercial sequence has not been accepted by the grid operator.

TORQUE LEADS WIND BY 11 SEC

YIELD BASIS APPROVED

Publication note: customer organisation and quoted representatives are fictional.