

Loose bolts on turbine engine exhaust stack

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The following near miss on an offshore installation has been reported.

What happened?

During high winds a 21m exhaust stack from one of the turbine engines on an offshore installation was seen to be moved abnormally. It appeared that the point of movement was at a joint halfway up the stack. Concerned that the top section might fall off, the installation was shut down and depressurised.

Our member's investigation revealed the following:

When scaffolding was erected and lagging removed, all 64 bolts around the joint were found to be loose and many bolts had come off – this is assumed to be due to vibration. It transpired that this part of the stack installed ten years ago had not been inspected since, while other parts of the stack were included on the maintenance schedule. Also the bolts used were not the ones specified in the design. These have since been replaced with bolts with a locking nut to prevent them from loosening during service.

Recommendations

This near miss highlights the need for inaccessible joints to be included in planned maintenance routines.

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