

1. Problem Statement

The Gryphon Alpha FPSO has twelve cargo tanks and each one needs to be regularly inspected to stay on top of any maintenance needed. This is usually done by a four person rope access team and can take up to five days. The team investigated alternative ways of conducting this inspection to reduce risk to personnel, save time and reduce cost.

2. Aim

Use a drone to successfully and safely inspect one of Gryphon Alpha's four storey tall cargo tanks with a view to incorporating drones into our regular inspection routine.

3. Method

- The team worked with a specialist drone vendor to pilot the use of a drone to inspect an offshore cargo tank.
- An expert pilot and inspector were the only people required to be in the tank with the drone during the inspection.
- Images from the inspection were sent to onshore teams for further analysis within minutes.
- If anything concerning was detected then arrangements would be made to contract a rope access team to further inspect and fix the anomaly.

4. Impact

- It was the first time a drone had been used to inspect an offshore cargo tank.
- The drone allowed us to inspect hard-to-reach areas without exposing personnel, reducing the overall risk to people throughout the activity while improving the quality of the data gathered.
- The drone inspection was successfully carried out in just a few hours. Compared to a rope access team which could take days for the same sample – the saving is considerable.
- The successful use of the aerial drone prompted the team to use a submersible drone to inspect a ballast tank, also on the Gryphon Alpha, again reducing unnecessary risk to people.
- The team is also planning to use aerial drones to inspect the cargo tanks once again in 2017 with the support of a crawler to take thickness measurements – a device that can scale walls.
- Using this method has the potential to save c.£5,000 per cargo tank without reducing the quality of the inspection.

Total hours saved

Significantly reduced.
A drone inspection takes
around one fifth of the time

Total savings anticipated

Has the potential to save
c.£5,000 per cargo tank