



INTERNAL VESSEL DRONE (UAV) INSPECTION

Workscope

Providing unmanned vessel entry to allow internal visual of a refractory lined vessel.

Stork was contracted by a key client to survey the internal refractory lining of a thermal oxidiser during a short shutdown period. The purpose of the survey was to establish the current condition of the refractory lining to allow the client to establish future remediation requirements.

Solution

Stork's vast Inspection knowledge and experience, coupled with one of our strategic partners, Air Control Entech, allowed Stork to provide a unique solution that was safer, more efficient and delivered significantly more useable data than a typical vessel entry approach.

Stork's Visual Inspector and Air Control Entech's UAV Pilot created a core team which allowed for the full inspection to be carried out in a much shorter time period, without the requirements for any physical manned entry into the confined vessel space; significantly reducing the risk of the inspection.



Project information

Project: Unmanned entry to Thermal Oxidiser vessel

Type of facility: Chemical Plant in the UK

Industry: Petrochemical

Safety: No Lost Time Incidents (LTIs)

Project efficiencies:

- No vessel entry required; reducing risk of inspection.
- Detailed 4k resolution images of the internal of the vessel to allow client to assess the condition.



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Results & Benefits

Stork planned and executed the project in a day, with less than 4 hours operational time on site, minimising the downtime of the vessel. Stork was able to demonstrate value to the client through a range of benefits:

- ✓ No man entry inspections.
- ✓ Detailed 4k imagery and video to allow condition of vessel to be reviewed by multiple stakeholders.
- ✓ Greater visibility and enhanced maintenance planning potential for the client through provision of robust evidence on the physical state of the refractory lining.
- ✓ Risk reduced as access to confined space carried out with the drone but retaining the inspection expertise, leading to greater control over project delivery.
- ✓ Project delivered on time with no disruption to ongoing plant activities.

FACTOR	MAN ENTRY	UAV
Personnel Required	2 + 2 Standby/ Rescue team	2 Technicians
Cost	£5k	£2.5k
Duration	8 hours	4 hours
Impact on operations	About same	About same
Hazard	High Risk	Low Risk
Differentiator	Some photos	Full 4k video