VAPOUR BLAST ONSHORE & OFFSHORE TRIALS

PROJECT INFORMATION

Date: September & October 2024

Location: UK, North Sea

DEFINITION

Vapour blasting operates similarly to a dry sandblasting machine, it employs air to propel abrasive material onto surfaces. By blending elements of pressure washing, vapour blasting effectively cleans, decontaminates and rinses surfaces thoroughly, resulting in a pristine finish.

SCOPE OF WORK

A workscope was scheduled in 2025 to carry out grit blasting around our client's powergen turbine air intake vents. However, it was determined that this would not be feasible.

Therefore, CNOOC engaged Stork to explore an alternative solution. The initial successful trial, utilising Glendevon's Vapour Blasting equipment took place onshore in September 2024, with representatives from Stork, CNOOC and Glendevon present.

The main objective of this trial was to build proficiency in operating the equipment, minimise the need for habitats, decrease dust pollution and alleviate unnecessary physical strain on personnel.

The second trial was scheduled to take place offshore at the live plant on QU L3 North in October 2024.

SOLUTION

Stork's Fabric Maintenance (FM) Team arranged a 1000-litre air receiver connected to three MacDonald airlines, which supplied the air receiver directly from the plant air. This setup significantly boosted the cubic feet per metre needed for the machine to operate effectively, eliminating the need for a bulky air compressor on board the platform.

The system was completely installed and prepared for the live trial by Stork. Additionally, white monoflex backdrops were set up to showcase the minimal percentage of spent abrasive and dust contamination produced by the machine.

The platform's HSE Supervisor, Offshore Installation Manager, Superintendents and Senior Team Leader all participated in the successful live trial. The operation effectively removed coatings and corrosion while simultaneously reducing non-visible surface contamination.

RESULTS & BENEFITS

- CNOOC's platform management team noticed a significant reduction in dust levels and expressed satisfaction with how Stork executed the trial.
- A training programme was established for personnel operating the vapour blast unit. This was implemented within a week following the initial successful onshore trial.
- 10 Stork personnel to date have completed comprehensive training and certification to proficiently set up, troubleshoot and operate the vapour blast machine safely and effectively.
- Post trial, the vapour blast machine was approved for implementation into the priority 1 structural scope, largely replacing the initially agreed method of mechanical preparation. Its performance during the live trial surpassed initial expectations.
- This has resulted in a higher level of corrosion removal and cleanliness, leading to extended longevity of carboline coatings by ensuring optimal adhesion to the prepared substrate.
- Offshore teams have noted a significant reduction in grit consumption during an average shift, resulting in decreased garnet usage for completing scopes. This not only streamlines operations but also minimises manual handling for personnel operating the machine.
- Reduction in consumable costs and carbon footprint.