



Flange Protection – Offshore Platform

Case Study

OXIFREE[®]
METAL PROTECTION

Corrosion Prevention On Flanges

Location	G-17 Platform, Netherlands
Local Environment	Offshore Platform
Date	February 2016
Condition	Dry / Cold
Total Coatings	114
Substrate Type	Flanges With Bolts
Duration	42 Days

Summary

Oxifree TM198 was used to protect 114 Class 900 flange assemblies on the wellhead on the cellar deck and mezzanine deck of the G-17 Platform for ENGIE (Now Neptune Energy). Oxifree provided the perfect solution being applied with minimal preparation and offering immediate protection. The flanges would then be protected from further damage.

Introduction

The G-17 platform is owned and operated by ENGIE in the Dutch sector of the North Sea. Gas from this complex is transported by the NGT (Noordgastransport) pipeline to NGT in Uithuizen where it is further refined and distributed via the GasUnie network across The Netherlands. The offshore location means the assets are subjected to changing weather conditions; salt spray, humidity, rain/sun, all accelerants of corrosion.

Objective

Oxifree were requested to carry out the coating of Oxifree TM 198 on all of the selected flanges as they were at the point where preventative protection with Oxifree would stop them from becoming too corroded and therefore difficult and expensive to maintain and replace.

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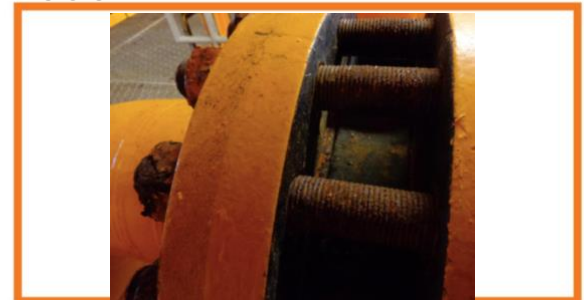
Before and after application photos, you can see the extent of corrosion.



After



Before



After



Case Study



Process

Oxifree application technicians completed the project in 42 days. Oxifree TM198 was applied directly onto each of the flange assemblies as requested by the client. As OPS personnel were unable to paint due to the prevailing weather conditions, they assisted in this process using a needle gun to help remove the loose rust. Although this isn't necessary for Oxifree applications it did speed up the process.

A 4mm coat was applied to each flange assembly which equated to a total consumption of approximately 750kg of material.

Solution

The coating, as approved by the operator, will ensure the flanges and bolts are protected for many years. The natural oil inhibitors will provide lubrication for the bolts. No sand-blasting was required and weather was not an issue during application. In the future the material can easily be removed for inspection.

Conclusion

There was severe corrosion on almost all of the flanges that were inspected on the platform. Traditional solutions of blasting/painting for these complicated shapes has clearly not been effective over the years, as well as being expensive, the paint locks the nut to the bolt and eventually corrosion sets in further lending the assemblies un-maintainable. Oxifree is the only viable cost-effective solution. This pilot project was deemed a success by ENGIE and as a result Oxifree was nominated for an innovation award within ENGIE.

“New product for us and a lot of questions raised which were answered by Oxifree, great job done” – Kasper Seleski (ENGIE)

Oxifree application technicians completed the job.

