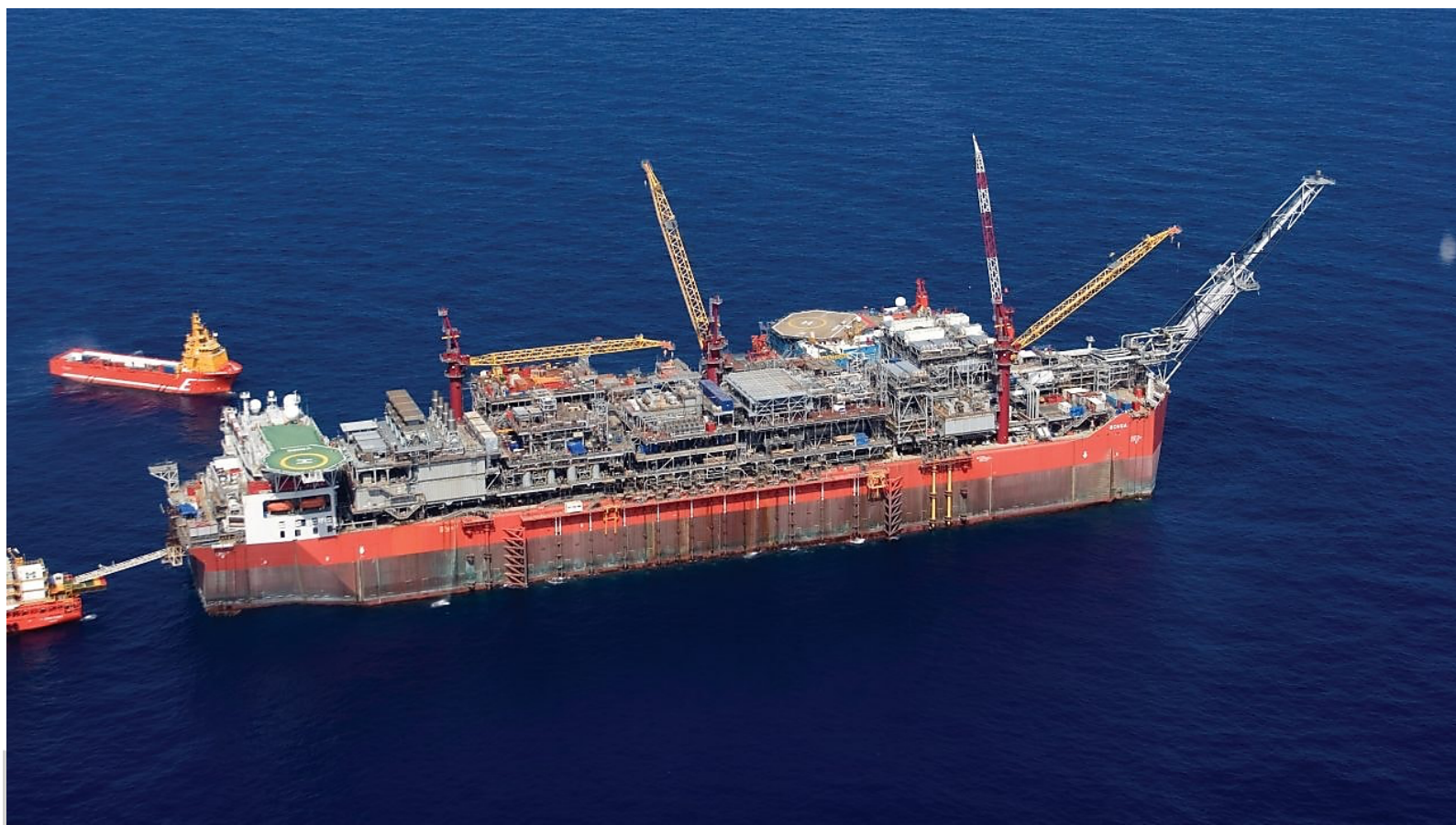




# Life Asset Extension for Flanged Connections

## Case Study



## Life Asset Extension for Flanged Connections



|                   |                               |
|-------------------|-------------------------------|
| Location          | Nigeria – Bonga FPSO          |
| Local Environment | Offshore FPSO                 |
| Date              | October 2019 - Present        |
| Condition         | Hot, humid and rainy episodes |
| Total Coatings    | Ongoing                       |
| Substrate Type    | Flanges                       |
| Duration          | Ongoing                       |

*Pictures of the substrates with Oxifree TM198 after job completion*



### Summary

Romson Oilfield Services have been carrying out Oxifree TM198 application on flanged connections on the Bonga FPSO which were heavily corroded, due to salt and water exposure in offshore environment. After encapsulation with TM198 the flanges are completely protected from any further corrosion damage caused by the harsh offshore environment.

### Introduction

The Bonga Floating, Production, Storage and Offloading (FPSO) facility is a crucial part of Snepco operations in Nigeria. The FPSO was built in 2004 and has been active offshore since 2005.

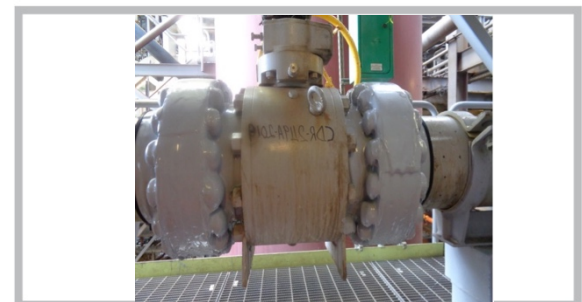
The vessel has been regularly maintained using blasting and painting methods. However, there was persistent corrosion, especially on complex geometric areas such as flanges.



### Objective

The primary objective of these works was to provide an efficient and viable solution to stop further corrosion and extend the lifespan of the flanged connections. The secondary objective was also to perform works with minimum disruption onboard the vessel and without any shutdowns.

The intention of the client was to use TM198 on all flanged connections which could reduce maintenance costs dramatically, saving both CapEx and OpEx expenditure in the long run.



# Case Study



## Process

The equipment, ancillaries and Oxifree TM198 material were sent offshore to the vessel prior to mobilisation of the Oxifree technicians.

Before the application, the areas were cleaned with a wire brush (St 2) to prepare the surface, removing any loose rust flakes.

A crew of 2 technicians and 1 supervisor was mobilized to perform the works. During the application, the material was continuously added into Polymelt PM50 ATEX Machine allowing for an uninterrupted application.

Collection trays were installed under the flanges so that so that the dripping material could be placed back in the machine and reused.

To protect the leading edges of the coating, Smart Bands were used. Although this is not necessary, it is to prevent any tampering of the application.

## Solution

A large number of flanges have been coated with Oxifree TM198, and has been continuing through 2020, 2022 and now into 2023.

It was a commendable solution as no shutdown of systems were required. Oxifree's simple application process also allowed other works to be carried out around the application areas.

The coating has built-in corrosion inhibitor oil which exudes from the material and immediately stops further corrosion. It can be removed easily using a cutter or a knife for maintenance and inspection purposes.

## Conclusion

The flanges were successfully coated, offering immediate and long lasting protection on the salt spray exposed substrates. Oxifree Anti -Corrosion Thermoplastic (ACT) coating is deemed to be the best solution to address the corrosion effectively.

*Pictures of the substrates with Oxifree TM198 after job completion*

