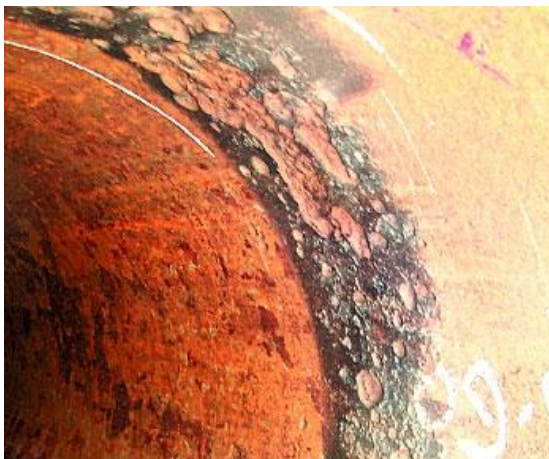


Bombora-ESP provides an integrity management service for the design, construction and operation of subsea and pipeline facilities.

Corrosion and Materials Engineering

Bombora-ESP's provides the following services:

- Corrosion assessments, including:
 - CO₂ corrosion
 - Top of line corrosion
 - Microbiological corrosion (MIC) assessment
 - H₂S corrosion (sulphide stress corrosion cracking and hydrogen induced cracking)
 - Erosion corrosion
 - Stress corrosion cracking
 - Corrosion management plans
 - Corrosion inhibitor evaluations



- Metallurgical Engineering, including:
 - Materials selection (including various stainless steel alloys and duplex stainless steels)
 - Manufacturing process (including lined and clad carbon steel)
 - Materials specification
 - Vendor assessment
 - Package management and vendor surveillance
 - Inspection and Test Plan specification and acceptance
- Welding Engineering, including:
 - Filler metal selection
 - Welding Process recommendations
 - Repair recommendations
 - AUT and ECA technical support

- Coatings Engineering, including:
 - Product selection (including thermal spray coatings, mill applied coatings and cold spray coatings)
 - Vendor assessment
 - Package management and vendor surveillance
 - Testing specification, qualification witnessing and acceptance
 - CP design
 - Field joint coating selection/qualification.

IMMR

Bombora-ESP provides guidance on IMMR activities, generating IMMR strategies, philosophies, risk based inspection plans and contingency plans from concept selection through to the completion of the execute phase.

Once the facilities are operational, Bombora-ESP is able to support our clients in the following areas:

Inspection and Monitoring

- Inspection pigging coordination
- In service coating performance
- Corrosion monitoring spools
- CP assessments
- Span assessments

Maintenance and Repair

Bombora-ESP supports its clients with the planning and execution management of the following maintenance and repair activities:

- Pipeline cleaning (pigging)
- Diver and diverless repair techniques, including:
 - Leak repair (clamps and connectors)
 - Coating damage and CP intervention
 - Introduction of secondary stabilisation
 - Span rectification
 - Pipeline intervention (via hot-tapping and pipe plugging)

Post event monitoring and failure analysis

Using Bombora-ESP's skills in materials and engineering analysis allows us to assess local defects (internal/external corrosion, dents, cracks, etc) and global defects (spans, lateral and upheaval buckles), undertake failure investigations and perform remaining life analyses.