OIL & GAS

CATHODIC PROTECTION AND CORROSION CONTROL

DNV GL leads the world in applying a unique blend of science and engineering to the study of corrosion and material degradation.

- Risk assessment
- Program development
- Modeling
- Mitigation
- Monitoring

A leader in corrosion services

In a competitive market with increasing regulatory and public attention toward safety, environmental issues and security of supply, striving to be best-in-class operator has become increasingly important. Yet operators also need to balance performance requirements, cost effective solutions and contractual obligations, while managing an aging asset.

With over 600 corrosion and materials specialists in 40 locations worldwide, DNV GL stands ready to serve as a comprehensive service and technology provider. Our unique combination of engineers, NACE-certified specialists/technicians and PhD scientists develop cost effective solutions to corrosion and materials problems - all with your specific needs in mind.

Corrosion and cathodic protection modeling

Critical structures like onshore and offshore pipelines, oceanic vessels and stationary marine and inland structures are often subjected to corrosive environments. Degradation of the integrity of these structures may pose a significant safety hazard to personnel and the surrounding environment.

These structures are often used in conjunction with cathodic protection systems designed to utilize impressed current and sacrificial anodes. Modeling and analysis techniques that use numerical software can reduce the risk and uncertainty of how a cathodic protection system will function even when subjected to a complex situation.

DNV GL provides technical engineering support and guidance to predict the interaction of your structure and the surrounding corrosive environment.
We provide engineering and technical support services to a variety of industries including onshore & offshore pipelines, marine & offshore engineering, naval & merchant vessels and underground facilities. Our combined professional staff of practicing engineers, research scientists and field specialists can address our clients’ needs, with a broad range of services to include:

- Performance assessment of impressed current and sacrificial CP systems
- Design for optimized anode placement and distribution
- Validation of existing CP system design
- Investigation of interference effects of foreign CP systems, stray current and HVDC
- CP system evaluation under various damage or age scenarios
- Analyze the effects of varying soil conditions as well as disimilar metals
- Identify critical areas on pipes or structures
- Determine minimum current requirements for appropriate protection
- Analyze electric and magnetic field in surrounding electrolyte

**Value delivered**

DNV GL's strength lies in its broad-based experience in corrosion research, cathodic protection system evaluation, computational modeling and understanding of industry practices and regulations.

Our engineering staff utilizes industry-leading numerical modeling tools to assist in the analysis of corrosion and cathodic protection systems. The tools include advanced computer modeling of current density, surface potentials, electric/magnetic fields and potentials in surrounding electrolytes.

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