# Design and Intelligent Control Application of Cathodic Protection for Offshore Jacket Platform

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**Abstract** The marine environment of ocean engineering projects is harsh, and the application of traditional cathodic protection equipment in ocean engineering faces problems such as high maintenance costs, untimely parameter adjustment, low work efficiency, and large errors. In response to the existing corrosion control demands of ocean engineering, this article takes the intelligent control system project for cathodic protection of jacket structures in an offshore step-up station as a demonstration, proposes an intelligent control and regulation scheme for cathodic protection. It elaborates on the design and implementation process of the cathodic protection intelligent control system, including system component selection, layout design, numerical simulation verification, and on-site testing and effect evaluation of intelligent control, aiming to promote the application and development of cathodic protection intelligent control in the field of ocean engineering.

**Keywords** Cathodic protection; Intelligent control; Marine engineering;