
Survey of the current situation of cathodic protection in the flight zone area and design of a cathodic protection system optimization program

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Abstract This paper carries out a detailed investigation and analysis of the current status of regional cathodic protection systems in different flight areas, aiming at exploring the key factors affecting the effectiveness of regional cathodic protection in flight areas. Through on-site testing and data collection of cathodic protection systems in different flight zones, the operation status and problems of cathodic protection systems are analyzed, and through comparative analysis, it is found that the existing cathodic protection systems in certain flight zones have certain deficiencies in the protection scope and effect, especially the phenomenon of uneven potentials in certain areas; through the analysis, it is found that the key factors affecting the effect of regional cathodic protection in flight zones are flight Through analysis, it is found that the key factors affecting the cathodic protection effect in the flight area are the large number of grounding reinforcement nets of electric valve wells in the flight area and the grounding of structures in the apron area. Based on the test results, the method of determining the cathodic protection current for different types of flight areas is given, which provides data support and theoretical guidance for the design of cathodic protection systems in similar flight areas.

Keywords cathodic protection, pipelines ,Feeder test ,Self-corrosive potential, breakage potential

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