DESIGN OPTIMATION CATODIC PROTECTION TO SOIL CORROSIVITY AND CORROSION RATE IN ONSHORE 10 INCH PIPELINES FROM THE CENTRAL PROCESSING AREA (CPA) TO PALANG IN JOB PPEJ

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ABSTRACT

Corrosion is very detrimental because it can cause leaks in transmission pipelines. Corrosion of pipelines can be reduced by designing catodic protection. technical analysis and economic analysis has been done on `cathodic protection system on crude oil transmission pipelines. Data is collected in 10-inch pipeline from the Central Processing Area (CPA) to the crossbar in Tuban JOB PPEJ. The results of technical analysis with manual method (\(\rho_{\text{soil}}\): 270 cm\(\Omega\)) found the number of 833 anodes. According to the mapping method area gained as much as 99 the number of anode (21 anode 32lb, 78 anode 50 lb). The results of economic analysis with the Life Cycle Cost Analysis (LCCA) according to the manual method (\(\rho_{\text{soil}}\): 270 cm\(\Omega\)) an estimated cost of Rp.2,381,353,118,00 to design for 25 years. According to the method of mapping an area requires a fee of Rp.283,431,386,00 to design for 25 years.

key words: Pipeline System, Optimization design of catodic protection, soil corrosivity and corrosion rate.