# Meningkatkan Efisiensi Energi Melalui Dedieselisasi Driver Engine Pompa Sungai Rokan PT. Kilang Pertamina Internasional - Dumai dengan Suplai Listrik 20 kV = Improving Energy Efficiency Through Dedieselization of Rokan River Pump Engine Driver PT. Kilang Pertamina Internasional - Dumai with 20 kV Power Supply

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Abstrak

Dalam rangka meningkatkan efisiensi energi, PT. KPI RU II Dumai melaksanakan Proyek Penggantian 2 (dua) Unit Driver Engine Pompa S. Rokan dengan motor listrik serta penambahan Variable Speed Drive (VSD). Dengan perubahan sistem driver tersebut, maka perlu dilakukan penyambungan listrik ke PLN 20 kV. Efisiensi yang berhasil dilakukan setara dengan nilai Rp31.941.504.000 / tahun atau total Rp766.596.096.000 selama 24 tahun dari usia proyek yang direncanakan. Berdasarkan Cost Benefit Analysis (CBA), proyek ini sangat layak dengan nilai keekonomian berdasarkan NPV sebesar USD 11.497.979 (Positif), IRR 76,51% (IRR>11,03%), PBT hanya dalam waktu 1,5 Tahun dan BCR sebesar 6,37 kali. Penerapan K3L dalam praktik keinsinyuran terdiri dari analisis bahaya dan dampak resiko serta bagaimana mengurangi dampak resiko tersebut. Penerapan kode etik, etika profesi dan profesionalisme dilakukan merujuk kepada Kode Etik Insinyur 2021 yang ditetapkan oleh Sidang Khusus Majelis Kehormatan Etik pada tanggal 18 Desember 2021 di Bali.

.....In order to improve energy efficiency, PT. KPI RU II Dumai is carrying out the Replacement of 2 (two) Units of S. Rokan Pump Engine Driver Project with electric motor and the addition of Variable Speed Drive (VSD). By changing the driver system, it is necessary to connect electricity to PLN 20 kV. The efficiency that was successfully carried out is equivalent to a value of IDR 31,941,504,000 / year or a total of IDR 766,596,096,000 for 24 years from the planned project life. Based on the Cost Benefit Analysis (CBA), the project is very feasible with an economic value based on NPV of USD 11,497,979 (Positive), IRR of 76.51% (IRR> 11.03%), PBT only in 1.5 years and BCR of 6.37 times. The application of HSE in engineering practice consists of an analysis of hazards and the impact of risks and how to reduce the impacts of these risks. The application of the code of ethics, professional ethics and professionalism is carried out referring to the 2021 Engineer Code of Ethics which was determined by the Special Assembly of the Ethics Honorary Council on December 18, 2021 in Bali.