Peningkatan Kapasitas dan Fleksibilitas Produksi Kilang Minyak Melalui Proyek Revamping Crude Distilation Unit (CDU) di Salah Satu Kilang PT XYZ = Increasing Oil Refinery Production Capacity and Flexibility Through the Revamping Crude Distillation Unit (CDU) Project at One of PT XYZ's Refinery

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Abstrak

Dalam rangka pemenuhan kebutuhan minyak dalam negeri dan potensi penurunan produksi Crude Duri & Minas sehingga memerlukan alternatif crude lain yang lebih ringan dan sour, maka diperlukan upgrading dan revamping kilang-kilang saat ini di PT XYZ salah satunya dengan peningkatan kapasitas dan fleksibilitas produksi kilang minyak PT XYZ melalui proyek revamping Crude Distillation Unit (CDU) di salah satu kilang PT XYZ. Dengan proyek revamping ini diharapkan adanya peningkatan kapasitas CDU dari 125 MBSD ke 150 MBSD, peningkatan kandungan sulphur mixed crude dari 0,2% Sulphur ke 0,37% Sulphur dan komposisi mixed crude yang lebih ringan dengan estimasi nilai proyek sebesar USD 67.873.382 selama total durasi proyek 20 tahun. Berdasarkan perhitungan nilai keekonomian, proyek ini sangat layak dengan nilai NPV (Net Present Value) sebesar USD 20 juta (positif), IRR (Internal Rate Return) sebesar 15,88%, PBP (Pay Back Period) sebesar 10,92 tahun dan PI (Profitability Index) sebesar 1,34. Berdasarkan keekonomian proyek diatas, IRR proyek revamping CDU di salah satu kilang PT XYZ memenuhi kriteria layak karena berada diatas Hurdle Rate (USD) Corporate RKAP 2020 sebesar 10,52% pada Bidang Kegiatan Kelompok Bisnis Hilir Oil Refining. Aspek K3L (Keselamatan Kesehatan Kerja dan Lingkungan) telah diterapkan dalam praktik keinsinyuran dengan menganalisis bahaya serta mengambil tindakan untuk mengurangi dampak resiko dari bahaya tersebut. Diantara bahaya yang ada yaitu pada aspek Kesehatan, keselamatan, keamanan dan lingkung juga didukung pelaksanaan HSE Plan dalam menjalankan proyek. Penerapan kode etik, etika profesi dan profesionalisme juga telah menerapkan prinsip dasar (Catur Karsa) dan tuntutan sikap & perilaku (Sapta Dharma).

.....In order to meet domestic oil needs and the potential for a decrease in Crude Duri & Minas production so that it requires other crude alternatives that are lighter and sour, it is necessary to upgrade and revamp PT XYZ's existing refineries, one of which is by increasing the capacity and production flexibility of PT XYZ's oil refineries through Crude Distillation Unit (CDU) revamping project at one of PT XYZ's refineries. With this revamping project, it is expected that there will be an increase in CDU capacity from 125 MBSD to 150 MBSD, an increase in the sulfur content of mixed crude from 0.2% Sulfur to 0.37% Sulfur and a lighter mixed crude composition with an estimated project value of USD 67,873,382 over the the total duration of the project is 20 years. Based on the calculation of the economic value, the project is currently very feasible with an NPV (Net Present Value) of USD 20 million (positive), IRR (Investment Rate Return) of 15.88%, PBP (Pay Back Period) within 10.92 years and PI (Profitability Index) of 1.34. Based on the economics of the above projects, the IRR of the revamping CDU in one of refinery PT XYZ meets the eligibility criteria because it is above the 2020 Corporate RKAP (Rencana Kerja dan Anggaran Perusahaan) Hurdle Rate (USD) of 10.52% in the Downstream Oil Refining Business Group Activities Sector. HSE aspects have been applied in engineering practice by analyzing hazards and taking action to reduce the impact of risks from

these hazards. Among the existing hazards, namely the aspects of health, safety, security and the environment, are also supported by the implementation of the HSE Plan in carrying out the project. The application of the code of ethics, professional ethics and professionalism has also implemented basic principles (Catur Karsa) and attitude & behavior demands (Sapta Dharma).