ABSTRACT

The Government of Indonesia have been establishing PT. X to meet fuel needs in Indonesia. PT. X is a state-owned company engaged as a subsidiary of PT. Pertamina's upstream sector. As a company engaged in oil and gas, one of PT. X activity is building projects for either resevoirs or supporting facilities. PT. X use techno-economy analysis in determine which of the project should be build. Techno-economy analysis is the analysis used to determine the best choice of a project alternative compared to other alternatives using the calculation of Net Present Value, Internal Rate of Return, Payback Period and sensitivity analyzes. In this case the analysis is performed on development projects in the field of lifting facilities northern Java Sea.

There are three alternatives that are generated to find the best alternative in building the lifting facilities.. The first alternative is building new ORF, the second alternative is shipping and docking, and the third alternative is joint lifting. Based on that analysis analysis, the conclusion is the best alternative is the third alternative. That conclusion is based on the value of Net Present Value, Internal Rate of Return, payback period and Benefit-Cost Ratio. The value of each of that in sequence is $27.660.000 of NPV, 27% of IRR, 2 years of payback period and 1,55 value of the BCR. All those four values are better compared to the other alternatives. Beside of that value, this alternative is sensitive to the value of gross production and insensitive to the oil price. Because of that the chosen alternative to execute the building of lifting facilities in XX field by PT. X based on the techno-economy assesment and analysis is by joint lifting.

Keywords: *Techno-economy Analysis, Net Present Value, Internal Rate of Return, Pay Back Period, Sensitivity Analysis.*