

ABSTRACT

PT XYZ is a company engaged in upstream oil and gas, a drilling rig is needed to support the drilling process which aims to meet the target of oil and gas production. The type of drilling rig that is suitable for PT XYZ's operating area is a drilling tower with jack up type because the operating area of PT XYZ is offshore.

The selection of jack up drilling rig is one of the important roles for any exploration or exploitation program because approximately half of the drilling costs are determined by drilling rig. Drilling rig will also determine other supporting services such as cementing service, tubular handling service and etc. The selection of jack up drilling rig that has good performance at an economical price has its own difficulties, because the process of procurement of goods and services in upstream oil and gas is regulated and supervised by The Government of Republic Indonesia, represented by SKK MIGAS in the form of work guideline named PTK 007 and its last applicable revisions.

The Technique for Order Performance by Similarity to Ideal Solution (TOPSIS) can be used to determine the priority for selecting supplier. TOPSIS is a method of selecting or making decisions with multiple criteria. The purpose of this study is to design decision making that can assist the process of existing supplier selection using TOPSIS method.

TOPSIS method is used to provide supplier selection with determining criteria and sub-criteria needed by key decision makers. In this study there are four (4) criteria: Administrative, Technical, HSE (Health, Safety and Environment) and Commercial. Administration has two (2) sub criteria, Technical has seven (7) sub criteria, HSE has four (4) criteria, HSE has four (40 sub criteria and commercial has two (2) sub criteria. Total respondents with position and background related to the object of the study is six (6). Total alternatives available in the supplier selection for jack up drilling rig is three (3) suppliers.

Keywords: supplier selection, Technique For Order Performance by Similarity to Ideal Solution (TOPSIS), jack up drilling rig, criteria, sub criteria, alternative, ideal solution.