

**IMPLEMENTATION OF INTEGRATED ENVIRONMENT  
PERFORMANCE MEASUREMENT SYSTEM (IEPMS)  
AND ANALYTICAL HIERARCHY PROCESS (AHP)  
FOR OIL AND GAS INDUSTRY AT SAKA INDONESIA  
PANGKAH LTD (SIPL)**

Name : Tatsa Rabiaty  
NRP : 2510100153  
Department : Industrial Engineering ITS  
Supervisor : Prof. Dr. Ir. Udisubakti Ciptomulyono, M.Eng.Sc

**ABSTRACT**

*Indonesian oil and gas sector are very demanding industries due to increasing domestic energy consumption. The exploration and production of this sector would provides an environmental impacts for surrounding people which is in turn to reduce the quality of life. Saka Indonesia Ujung Pangkah (SIPL) is one of oil and gas company that would be potentially as pollution for the environment due to discharging of solid waste, liquid waste, gases, and hazardous material from its exploration and production activity. In order to implement of ISO 14000, the environmental performances of this company should be measurable. To do so, environmental measurement system is implemented based on Integrated Environment Performance System (IEPMS), then Analytical Hierarchy Process (AHP) is utilized for prioritizing the importance of Key to Environmental Performance Indicator (KEPI) that are designed as representative of environment performance. This research identify the potential of environmental impact, design environmental indicators and also measure and monitor company's environmental performance. Initial identification of potential environmental impacts using BAPEDAL criteria. Qualitative and quantitative criteria in IEPMS method designed to be KEPI. KEPI then weighted by using AHP. Environment performance of this company measure using Scoring system Objective Matrix (OMAX) and Traffic Light System. As the result, this research provide 60 quantitative KEPI and 14 qualitative KEPI with 6,07030 as achievement score which is categorized as yellow. When found that the KEPI is red, the company could improve them by proposing an alternatives solutions, so this category of KEPI to become green.*

**Keywords:** *Key to Environment Performance Indicator (KEPI), Integrated Environment Performance Measurement System (IEPMS), Analytical Hierarchy Process (AHP), Scoring system.*