World Academy of Science, Engineering and Technology International Journal of Mechanical and Materials Engineering Vol:10, No:12, 2016

Teaching Material, Books, Publications versus the Practice: Myths and Truths about Installation and Use of Downhole Safety Valve

Authors: Robson da Cunha Santos, Caio Cezar R. Bonifacio, Diego Mureb Quesada, Gerson Gomes Cunha

Abstract: The paper is related to the safety of oil wells and environmental preservation on the planet, because they require great attention and commitment from oil companies and people who work with these equipments. This must occur from drilling the well until it is abandoned in order to safeguard the environment and prevent possible damage. The project had as main objective the constitution resulting from comparatives made among books, articles and publications with information gathered in technical visits to operational bases of Petrobras. After the visits, the information from methods of utilization and present managements, which were not available before, became available to the general audience. As a result, it is observed a huge flux of incorrect and out-of-date information that comprehends not only bibliographic archives, but also academic resources and materials. During the gathering of more in-depth information on the manufacturing, assembling, and use aspects of DHSVs, several issues that were previously known as correct, customary issues were discovered to be uncertain and outdated. Information of great importance resulted in affirmations about subjects as the depth of the valve installation that was before installed to 30 meters from the seabed (mud line). Despite this, the installation should vary in conformity to the ideal depth to escape from area with the biggest tendency to hydrates formation according to the temperature and pressure. Regarding to valves with nitrogen chamber, in accordance with books, they have their utilization linked to water line ≥ 700 meters, but in Brazilian exploratory fields, their use occurs from 600 meters of water line. The valves used in Brazilian fields are able to be inserted to the production column and self-equalizing, but the use of screwed valve in the column of production and equalizing is predominant. Although these valves are more expensive to acquire, they are more reliable, efficient, with a bigger shelf life and they do not cause restriction to the fluid flux. It follows that based on researches and theoretical information confronted to usual forms used in fields, the present project is important and relevant. This project will be used as source of actualization and information equalization that connects academic environment and real situations in exploratory situations and also taking into consideration the enrichment of precise and easy to understand information to future researches and academic upgrading.

Keywords: down hole safety valve, security devices, installation, oil-wells

Conference Title: ICMMME 2016: International Conference on Mechanical, Mechatronics and Materials Engineering

Conference Location: Sydney, Australia Conference Dates: December 15-16, 2016