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Enhanced SIMOPS Implementation Towards Safer Brownfield Project Execution

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ABSTRACT

Simultaneous Operations (SIMOPS) is defined as two or more operational activities performed by different entities that take place concurrently, due to their vicinity and possible interactions between several activities that may pose adverse impact or consequence to the people, environment or assets. PETRONAS Design Engineering Management Manual stipulates that SIMOPS procedure is established for a project by the project management team, depending on its applicability which is to be appropriately determined by certain criteria. The SIMOPS procedure is intended to provide a sound knowledge of the safe work practices applicable to SIMOPS to all project personnel who are involved in the construction and commissioning activities. Under typical brownfield project management practice, the process of managing SIMOPS risks is often limited to the construction and commissioning activities of the project which ignores new or additional hazard and risk introduced from the simultaneous execution of several activities in the project and running plant. An enhanced SIMOPS process was established and implemented during the recent execution of a brownfield project in PETRONAS which managed SIMOPS risks in totality by considering both project and running plant activities and their potential interactions. The more comprehensive process enabled the identification of the new or additional hazards due to SIMOPS activities in the project and running plant, which could otherwise be overlooked under limited normal SIMOPS process. A risk re-assessment exercise was then carried out for each SIMOPS scenario to identify the additional control and mitigation measures to manage the new or combined risk. Implementation of the additional control and mitigation measures by the project management team ultimately led to zero major accident throughout the project execution.

KEY WORDS

Simultaneous Operations, Project Management, Hazards Identification, Risk Assessment

BIOGRAPHY

A Process Engineer with more than 17 years of experience in process design, engineering and troubleshooting, process and energy optimization, process and utility simulations, feasibility studies, project management, capital project execution (engineering, construction, commissioning and start-up), and plant turnaround. Currently acting as a Technical Professional (Principal Engineer) in PETRONAS Group Technical Solutions and responsible for the technical leadership in the area of expertise and provision of consultancy services and technical solutions to PETRONAS OPUs groupwide. Previously

worked in PETRONAS LNG Complex in Bintulu as Staff Engineer (Gas Treating), looking into the front-end section of MLNG SATU and DUA.

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