The term Enhanced Oil Recovery (EOR) is being used in petroleum industry as Tertiary oil recovery whereby additional recovery can be obtained after natural recovery processes and conventional methods (e.g. water injection) have been exhausted. The EOR processes can be broken down into three main categories, Thermal EOR (e.g. Steam injection), Immiscible/Miscible EOR (e.g. Lean Gas, CO₂ injection) and Chemical EOR (e.g. Alkaline/Surfactant/Polymer injection). The field in focus that has been studied for Chemical EOR (CEOR) is an offshore oil field development in the Malay Basin in Peninsular Malaysia operated by PETRONAS Carigali, with Exxon as 50% stake holder. The field has been developed via a Central Processing Platform (CPP); bridge-linked to a drilling and connected to four (4) other satellite platforms via subsea pipelines. The CPP consists of gas and oil handling facilities and is equipped with water injection module (WIM) capable of injecting up to 145MMstb/d for waterflooding and pressure maintenance. In general, CEOR development in an offshore environment is being postulated as of “high cost” with “logistical and operational” complexity and challenging. As part of decision making process for a mid-life field in an offshore environment, one may require to ascertain whether strategy of framing, assess and selection with risks and uncertainties have clearly been mapped, and can lead to a final decision of execution. The Peninsular Malaysia field is an example of process for a mid-life field that has gone through a chemical EOR evaluation based on industrial and conventional “staged approach”. Front End Loading (FEL) gates of initiation, scope selection and scope definition (FEL1 to FEL 3) were set up to ensure the best concept and associated strategies have been selected, and project with execution will be a success in phase 4 and 5. Project governance and an assurance plan have been put in place to make sure the steer, supervision, support and assurance are given at all stages of the project. To ensure that uncertainties and risks associated with each gate were captured, understood and mitigation plans were being put in place, the project was sub divided into 4 main categories (subsurface, Technology, Projects and Operations). Each section’s significant risks that may impact the viability of the project were identified, and further scrutinised and designed with exit sign posts approach.

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