Management of Life Extension for Offshore Production Platforms in China

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Abstract

Issues arising from life extension (LE), present key challenges for offshore production platforms in China. Technological advances in exploration and production mean that the production platforms in Chinese Bohai Bay have many developments that are now operating beyond their original design life. As equipment ages, there are increased challenges to maintaining their integrity.

The paper provided an overview of issues related to ageing and management of LE in America, UK and Norway. The U.S. Minerals Management Service specified a four-phase program to assess all existing Gulf of Mexico platforms older than five years. For the United Kingdom Continental Shelf (UKCs) Oil and Gas Installations, the structure of the LE management was aligned with the well-established HSG65 safety management system. HSG65 systematically broken down the elements of management and was adopted to build the life extension management guidance in order to improve understanding and to ensure that life extension issues were addressed across all aspects of asset management. Compared to the LE management system in the US and UK, identification and correction of gaps to current facilities regulations were great features in Norway, which was practical in China.

Further, combining the LE management system in Norway with the current situation in China, a LE management system model was designed. In this model, the technical support system was presented in three levels, i.e., platform, system and equipment. Finally, an example of a gas production offshore platform in China’s Bahia Bay would be used to walk through the LE management process and address in each phase.