

Impact analysis on riser guard platform to protect the gas pipeline

About the Client

The client is a major EPC contractor for a global Oil corporation.

The Challenge

To Develop the FE-Model and execute vessel impact analysis on the riser guard installed on the west face of the XY platform to protect the 16-inch Dry gas pipeline from XY. The analysis is performed to check the riser guard is able withstand the operational impact load from the vessel.

The Solution

The Engineering team at DEP created an engineering process after a detailed study of the project scope. The finite element model was generated based on the drawings provided by the customer. The vessel is assumed as rigid barrier & it is placed parallel to the riserguard. The software which was used to conduct the analysis was ABAQUS Simulia. The team had very close discussions with customer to

understand the load cases & boundary conditions. One of the load case happened to be that the structure is constrained in all degrees of freedom at the MUDLINE. As the system had to be commissioned immediately, there was a tight timeline to generate the results summary.

DEP engineers formed the team and became accountable for the respective tasks and milestones of the project. The timeline was due diligently met as any other standard engineering projects at DEP & results were delivered to the customer which resulted in

immediate commissioning & fabrication of with significant cost savings.

The Result

The complete summary of the results of the riser guard with & without fillet was generated & submitted to the customer which resulted in faster commissioning of the system.

The results & practices generated by DEP are still used as the standard practice at the customer end.

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