ABSTRACT

Vibration and erosion analysis has been done on the system piping of the influence of fluid flow with a Mach 0.7 speed modeling using software CAESAR II 5.10. Modeling analysis performed by the node to node for static analysis of the pipe strength and vibration using CAESAR 5.11 software that has the ability to provide a visual picture of the form of piping systems and the analysis of stress, force, displacement, torque, and the natural frequency of the pipe. They also reported the occurrence of overstress the system to be analyzed. In the analysis of piping system model is obtained in accordance with ASME B.31.3 code with the natural frequency of 16.7 Hz pipe. While the erosion analysis carried out by manual analysis using a standard API 14E. From the analysis of models obtained in compliance with ASME B.31.3 standard, whereas the results obtained for the analysis of erosion that occurs due to erosion of the pipe \( V > V_e \).

Keywords: CAESAR II 5.10, Erosion, Vibration