

Master Thesis Brief Description

Thesis Title	Analysis of properties, structure, characteristics and compatibility that a Natural Gas pipelines
Programme of Studies	MSc in Oil and Gas and Offshore Engineering
Course	MOE 518 Master Thesis
Area of Study	Processes Modelling and Simulation
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Supervisory Committee	Dr Chris Christodoulou, Professor, Mechanical Engineering Department Dr Antonis Papadakis, Ass. Professor, Electrical Engineering Department
Semester	Spring Semester 2015
Short Description	<p>A pipeline must transport fluids over diverse topography and under varied conditions. Ideally this would be done efficiently with a correctly sized pipeline that adequately accounts for pressure drop, heat losses and includes the properly specified and sized inline facilities, such as compressors, heaters or fittings. Due to the complexity of pipeline network calculations, this often proves a difficult task. It is not uncommon that during the design phase an over-sized pipe is chosen to compensate for inaccuracies in the pressure loss calculations. With multi-phase flow, this can lead to greater pressure and temperature losses, increased requirements for liquid handling and increased pipe corrosion. Accurate fluid modelling helps to avoid these and other complications and results in a more economic pipeline system. To accomplish this requires single and multi-phase flow technology that is capable of accurately and efficiently simulating the pipeline flow.</p> <p>This project aimed in developing a selection method of the most suitable pipeline properties such as material, sizing, and fabrication method and project development. The study focused on the case of transferring Natural Gas from offshore Cyprus to the proposed energy centre, at Vassilikos area.</p>