DESIGN OPTIMISATION OF AN MOORING FACILITY FOR FLOATING STORAGE REGASIFICATION UNIT.

Alihan İNAN, Hasan Berk ÇALIŞKAN, Erçil YILDIRIM, Tuğçe Yeşim SÖNMEZ, Ismail HAMMOUD, Phoeby KIBE

Supervised by Assist. Prof. Dr. Abdullah EKİNCİ

Civil Engineering Department, METU Northern Cyprus Campus

Introduction and Statement of the Problem

Natural gas is an important source of energy in the United States. Many cities and industries that require such energy, however, are located far from gas fields. This has resulted in a number of novel gas import alternatives, with offshore terminals, particularly Floating Storage and Regasification Units (FSRUs), being able to provide a solution capable of meeting the demands of both gas companies and local people. In this report, under the scope of the civil engineering design course (CVE 410), possible design solutions and explanations of the reasoning behind constructing a mooring system for FSRUs in Northern Cyprus will be discussed, which was supervised by Asst. Prof. Dr. Abdullah Ekinci.

Site Investigation & Desk Study

SITE LOCATION

ALTERNATIVE I

ALTERNATIVE II

SOIL SECTION DIRECTIONS FOR ALTERNATIVE II

IDEALIZED SOIL PROFILE FOR DS-7, DS-8, DS-9, DS-11 BOREHOLES

SAMPLE PILE DESIGN (A)

Moorings dolphins are planned to be tied to the ship with steel ropes and pulled with a force of 100 kN

GEO5 is a strong programming suite for taking care of geotechnical issues dependent on customary scientific strategies, and the Finite Element Method (FEM)