A 2-Day Short Course on

SOIL MECHANICS FOR PIPELINE DESIGN AND STRESS ANALYSIS

INTRODUCTION

The “Soil Mechanics for Stress Analysis and Pipeline Design” workshop is intended for those working on the design or monitoring of pipelines. While the workshop is centered on geotechnical engineering, the course was developed to provide information to participants with little or no geotechnical engineering experience or knowledge.

Any geotechnical concepts discussed will be at an entry level (i.e., Soil Mechanics 101). Mechanical engineers will readily grasp many of the soil strength concepts because of the similarity to stress strain behaviour for pipe steel.

OBJECTIVES

Upon completion of this course, participants will be able to:

- Understand the common terms used by geotechnical engineers to describe soils and their properties.
- Understand and appreciate the different types of soil strengths and how they relate to pipe-soil interaction.
- Understand how the equations used to estimate soil resistance for pipe-soil interaction are derived and their limitations.
- Know when to use drained (effective) strengths and undrained (total) strengths for specific cases of pipe-soil interaction.
- Understand the influence of trench geometry, loading rate, depth of burial and other factors on the outcome of a pipe-soil interaction.

COURSE CONTENTS

- Soil classifications and definitions
- Geotechnical investigations for pipeline design and analysis
- Soil-pipeline interaction scenarios
- Soil strength testing and interpretation
- Pipeline deformation scenarios
- Maximum soil strength derivation and soil pipe interaction relationships
- Soil-pipe interaction considerations.

DATE: 3-4th September 2019
TIME: 9.00am - 5.00pm
VENUE: Level 16, Menara 2, Menara Kembar Bank Rakyat, Jalan Travers, 50470 Kuala Lumpur

Each participant will get a free book by James Oswell worth USD 120.
Dr. Oswell, has worked on many pipeline projects in Canada as well as internationally for over 30 years. Many of these projects involved site investigations, laboratory testing, extensive analysis and evaluation, and development of engineering study reports. Dr. Oswell has extensive pipeline geotechnical engineering and geological hazard assessment experience. He has contributed service in specialist engineering for pipeline projects in northern Canada, Alaska, and Russia. He was part of the Strain Based Design team for the Alaska LNG pipeline project. He has senior consulting experience on the following major pipeline projects: Mackenzie Gas Project (Canada), Norman Wells oil pipeline (Canada), Alaska North Slope Project (United States), Denali Pipeline Project (United States, Canada), Alaska Gas Project (United States, Canada), Mohe-Daqing oil pipeline (China), Baydaratskaya Bay Gas Pipeline Crossing (Russia) and the ExxonNeftigaz Sakhalin to DeKastri oil pipeline (Russia).

As an expert in geohazard interaction with pipelines, Dr. Oswell conducted studies or acted as a senior reviewer/advisor for projects with significant engineering and geohazard challenges. These include geohazard management of landslides, earthquake faults, and liquefaction. He has experience in the interpretation of geological hazards using LiDAR imagery. He is a recognized expert in geotechnical issues related to soil-pipe interaction. He has conducted forensic investigations involving pipeline integrity issues including pipeline ruptures and loss of life events in Ecuador, Colombia, Canada and United States.

Dr. Oswell has published over 30 technical conference and peer-reviewed journal papers, and was the keynote speaker at the 63rd Canadian Geotechnical Conference/6th Canadian Permafrost Conference. He is presently Associate Editor of the Canadian Geotechnical Journal. He has published the text book “Soil mechanics for pipeline stress analysis”.

He presented this workshop to audiences in Canada, United States, Austria, China, South Korea, Peru and Japan.

HOW TO APPLY

Email cape@utp.edu.my for registration by 20th August 2019.

Seats are limited. A seat will be confirmed once the payment / LOU is received. Confirmed participants will be informed via email.

WHO SHOULD ATTEND?

- Engineers
- Managers
- Lecturers
- Post-graduate students
- Researchers

COURSE FEES

- RM 3,270 (Professionals)
- 10% Discount (UTP Alumni, PETRONAS & Group Registration)
- 20% Discount (Student)

Course fee is not inclusive of 6% SST.
Group registration is applicable for 3 pax and above from the same company.
The fees include refreshments and course materials.
A certificate of attendance will be issued upon successful completion of the course.

CONTACT DETAILS

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