



Several Case Histories of Pipeline Distress Induced by Landslides in North and South America

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ABSTRACT

Those countries in South America that are mountainous have traditionally experienced much higher rates of pipeline incidents caused by landslides than North America. The terrain and climatic conditions are two important factors that influence the negative interaction between slopes and pipelines. In western North America, ancient marine shales are present near the ground surface and exposed in deep river valleys; these shales are susceptible movements that can induce pipeline integrity issues.

This presentation discusses several case histories in two South American countries and western North America where post-incident forensic investigations showed that landslides were the direct cause of the pipeline distress. In one unfortunate case, the loss of containment by the pipeline resulted in over 30 fatalities. The initial approach to the forensic investigations and the subsequent geotechnical monitoring and results will be presented.

Date: 17 September 2019 (Tuesday)
Time: 5:00 p.m. – 6:00 p.m.
Venue: Z212, 2/F, Block Z, The Hong Kong Polytechnic University, Hung Hom, Kowloon,

SPEAKER'S BIOGRAPHY

Dr Oswell has practiced geotechnical engineering in western and northern Canada, and internationally for 30 years. Many of these projects involve site investigations, laboratory testing, forensic analysis and evaluation and development of engineering study reports. His primary expertise is in geotechnical issues related to pipelines and permafrost, and pipeline-soil interaction issues. He has senior consulting expertise on the following major pipeline projects in permafrost terrain: Mackenzie Gas Project, Norman Wells oil pipeline, Alaska North Slope Project, Denali Pipeline Project, Alaska Gas Project, Mohe-Daqing oil pipeline (China) and Baydaratskaya Bay gas pipeline crossing (Russia). In non-permafrost terrain, he has provided geotechnical engineering expertise on numerous pipeline projects in Alberta, northern British Columbia, Russia, Mexico, Ecuador and Colombia. These projects have typically involved soil-pipe interaction studies and/or geohazard assessments.

Dr Oswell was the keynote speaker at the 63rd Canadian Geotechnical Conference in Calgary. He is past chair of the Canadian National Committee of the International Permafrost Association and a past Vice President of the Canadian Geotechnical Society. He was recently an Associate Editor of the Canadian Geotechnical Journal (since 2013) and is the Canadian representative on an ISO working group developing a standard for geohazard management of onshore pipelines. He is author of the textbook "Soil mechanics for pipeline stress analysis".

*** All Interested Are Welcome ***

For further information, please contact Dr C. Zhou at Tel. 27666071.

Free Admission. Please reserve your seat with Dr Zhou by email: c.zhou@polyu.edu.hk.

Certificates of attendance will be provided to participants if they attend the whole lecture.