



# GEOLOGIC HAZARD SCREENING for Potential Power Plant Sites and Liquefied Natural Gas (LNG) Terminal Facilities Baja California, Mexico

## PROJECT DESCRIPTION

*Earth Consultants International* was retained to evaluate and rank the geologic constraints at six alternative power plant and liquefied natural gas (LNG) terminal facility locations in Baja California Norte, Mexico. The sites were all on the Pacific Coast, and were at potential risk from surface fault rupture, strong seismic shaking, landsliding, bluff failure, coastal retreat, liquefaction, and tsunamis. Geologic constraints for each site were to be evaluated for “fatal flaws” and also integrated into a larger decision-making tree for selection of the best site for the proposed critical facilities.



Potentially active fault posed a serious constraint at this potential site.



Good exposure of an undeformed marine terrace across a potential site.



Coastal bluff landsliding poses a serious constraint at this potential site.

## SOLUTION

The first phase of the project began with a review of aerial photographs and geologic background materials to understand the geologic setting and issues of all six sites. *Earth Consultants International's* geologists then completed a site reconnaissance of the sites to document on-site conditions and confirm those issues noted in the office review. All six sites were geologically different, and all six had geological constraints to the proposed facilities. However, only two sites had potentially fatal flaws. The constraints at the other four sites could be mitigated using typical engineering solutions. Unfortunately, one of the two sites with fatal flaws was still being strongly considered for other non-geological reasons. *Earth Consultants International* was requested to undertake a limited field investigation designed to confirm or refute the possibility that a fault that traversed the site was active under the project definitions. Fortunately, the field study was successful in proving that, although present, the fault is no longer active.

