



Research Project Highlight

Next Generation Liquefaction (NGL) Project

Project 1117-NCTRSJ

Principal Investigator

Jonathan P. Stewart, Professor and Chair, Civil & Environmental Engineering, UCLA

Research Team

- Dong Youp Kwak, Post Doctoral Scholar, UCLA
- Steven L. Kramer, Professor, University of Washington (collaborative project leader)
- Jonathan D. Bray, Professor, UC Berkeley (collaborative project leader)

Start-End Dates:

2/1/2014-6/30/2016

Abstract

The Next-Generation Liquefaction (NGL) project will (1) substantially improve the quality, transparency, and accessibility of case history data related to ground failure; (2) provide a coordinated framework for supporting studies to augment case history data for conditions important for applications but poorly represented in empirical databases; and (3) provide an open, collaborative process for model development in which developer teams have access to common resources and share ideas and results during model development. Work to date has focused on compiling high-value case histories, developing a database template, and planning for needed supporting studies.

Deliverables

- Online template for archiving data from NGL sites, which will comprise the project database.
- Case history data from selected high values sites characterized as part of this contract.
- Plan for broader project to be supported by various federal agencies and utilities.

Research Impact

This project and others to follow are part of a broad effort that will fundamentally re-define how liquefaction research is undertaken and how liquefaction effects are modeled in practice. The data products will see broad application by researchers, akin to how the NGA databases are an industry standard for ground motion research. Likewise, the NGL models will rapidly become the standard of practice once published.



Research Project Highlight

Next Generation Liquefaction (NGL) Project

Project Image

