

**EFFECT OF LARGE GROUND DEFORMATION ON
BURRIED HDPE PIPELINES**

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ABSTRACT

An experimental study was carried out to investigate the response of continuous buried HDPE pipelines to large seismic ground displacements. Centrifuge modeling was used as a main tool and centrifuge tests were conducted on using an advanced split container on Rensselaer 150 g-ton geotechnical centrifuge. The main goal in this study to explore the behavior of HDPE pipe and lateral soil springs in large ground offset levels. Hence, the relationships between soil-pipe deformations (i.e. p-y relationships) were developed using the experimental data. Comparisons were made between the results from the centrifuge tests of this study (large offset tests) and the results of tests conducted previously (small offset results) by Da Ha (2007) at RPI centrifuge center.