

SPECIALIZED EXPERIENCE

PIPELINES AND TUNNELS

Water Supply System, Canberra, Australia - As Staff Engineer for Department of Works, supervised design of 36-inch diameter water supply pipelines and participated in repair of a damaged 66-inch pipeline.

Alyeska Pipeline, Alaska - As Staff and Project Engineer for Dames & Moore, conducted studies related to static and seismic response of buried pipeline segments.

Sohio West Coast to Mid-Continent Crude Oil Pipeline, for Sohio Transportation Company - As Senior Engineer and Consultant to Dames & Moore, supervised development of seismic design criteria for pipeline and pumping stations.

Northshore Outfall Consolidation Sewer, for City and County of San Francisco - As consultant to Dames & Moore, advised on seismic design of box structure in poor ground. Devised innovation approach for mitigation of liquefaction hazard.

Beta Field Pipelines, San Pedro Bay, California, for Shell California Production - As consultant to Shell and Mesa², provided engineering input on routing of pipelines which cross an active fault zone

Generic Nuclear Waste Isolation Study, for Savannah River Laboratory and ONWI - Consultant to Science Applications, Inc., on study of seismic response of deep tunnels.

Renton Effluent Transfer System - Consultant to URS/Blume on evaluation of liquefaction potential and on slope stability problems for ocean outfall.

Islais Creek Facilities, Clean Water Program, City and County of San Francisco - Consultant on aseismic design and soil-structure interaction studies for transport/storage sewers.

Inland Feeder Tunnel, San Bernadino Mountains, for MWD of Southern California. Consultant to Jacobs Associates on seismic design issues.

Diablo Canyon Nuclear Power Plant. Consultant to Harding Lawson Associates and Pacific Gas & Electric Company on replacement of ASW pipelines.

Devil's Slide Tunnel, San Mateo County, California. Member of final design team.

Caldecott Tunnel Fourth Bore, Alameda/Contra Costa Counties. Member of planning and design team.