TORTOISE TO LOGANDALE 138 kV TRANSMISSION PROJECT

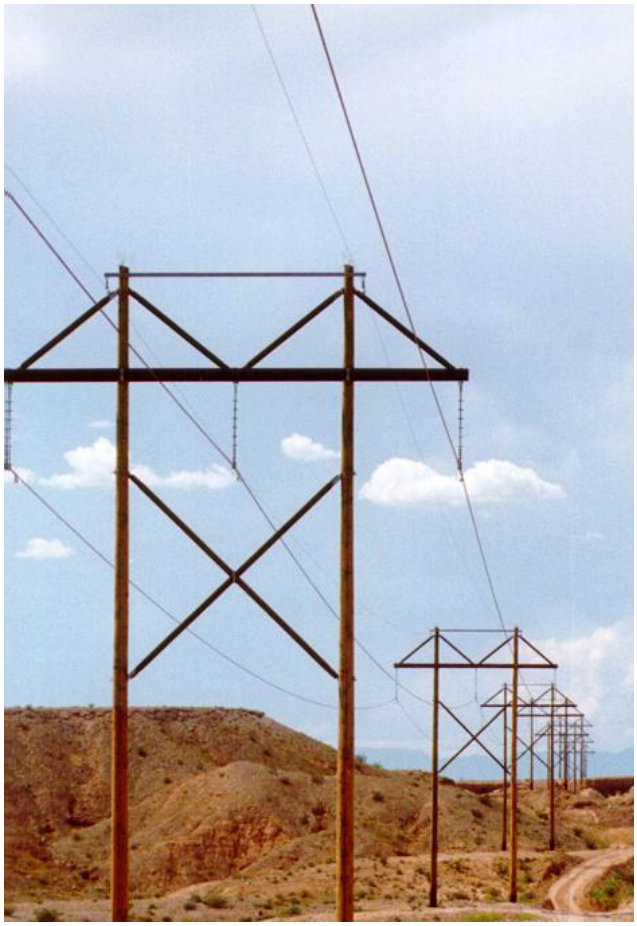
OVERTON POWER DISTRICT #5
LOGANDALE, NEVADA
MR. DELMAR LEATHAM

PROJECT COST: $981,016
COMPLETION DATE: 1992
PHONE: (702) 397-2512

Project Experience Resume

PROJECT DESCRIPTION

Because of load growth in both the Moapa Valley and the Mesquite area, Overton Power District's existing 69 kV transmission system was severely overloaded. AT OPD's request, a 138 kV transmission/substation conceptual design study was prepared by Industrial Power Technology (IPT) of Santa Rosa, California. This resume details the joint responsibility of ECI and IPT for design of this project.



The project was a difficult one to permit and to construct due to environmental concerns. The transmission line route, which is located just north of the Overton arm of Lake Mead, traversed prime Desert Tortoise habitat, a very sensitive issue on Federal lands in the Southwestern United States. Because of the endangered species act, a small force of biologists had to remain on the site during construction of the facilities.

The scope of services for which ECI/IPT was responsible included a conceptual design report with cost estimates of structure alternatives, including steel, wood single pole and wood H-frame construction, as well as insulation and conductor evaluations. H-frame wood pole construction was selected for this 795 kCM ACSR conductor since the rugged terrain lent itself to a longer ruling span.

Scope of services for which ECI was involved included design and specification of approximately 10 miles of 138 kV transmission line.

Mr. Dave Anderson acted as Project Engineer with responsibilities for complete mechanical and electrical design, plan and profile, material and construction specifications and contract, staking and project management duties.

Mr. Dick McComish was responsible for overseeing all engineering work related to this project, including quality control.

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The transmission line was designed for a light-loading district, but with an extreme high wind condition common in the desert regions of the southwest. The design included crossings of the L. A. Department of Water and Power's 500 kV AC and 500 kV DC lines, Nevada Power Company's 345 kV line as well as several 69 kV and 25 kV line crossings and Interstate 15. Non-specular conductor was utilized on a good portion of the line to eliminate some of the visual impact. Special pole top anti-perching devices were incorporated into the design as well to prevent structures from creating Desert Tortoise hunting perches for the indigenous birds.

KEY FACTS & HIGHLIGHTS

- **CONCEPTUAL DESIGN REPORT**
- **TECHNICAL LINE DESIGN**
- **ROUTING & STAKING**
- **PLAN & PROFILE**
- **PROJECT MANAGEMENT**
- **MATERIAL & CONSTRUCTION SPECS**
- **DESIGN FOR DESERT TORTOISE HABITAT AREA**
- **795 KCM NON-SPECULAR CONDUCTOR**

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