

## 2001 – 2002 LINE RATING

NEVADA POWER COMPANY  
LAS VEGAS, NEVADA  
MR. KIP JACKSON, TRANSMISSION MANAGER

COMPLETION DATE: 2002  
PHONE: (702) 367-5324

### PROJECT DESCRIPTION

ECI was engaged by Nevada Power Company to evaluate 311 miles of transmission line. The 311 miles were comprised of 35 separate lines ranging in voltage from 69kV to 230kV. Structures included, single steel and wood poles, along with single circuit H-Frame structures. The terrain varied from desert to very mountainous areas. Many of the lines were also located in downtown Las Vegas.



ECI's scope of work included obtaining aerial survey, developed the PLS-CADD files from the survey data, and then evaluated the lines for adequate clearances to meet NPC's operating requirements. John Chance Land Survey (Fli-Map Division) provided the LIDAR survey and ECI performed the data filtering and identification of feature code points contained in the aerial survey. John Chance was selected based on their expertise for LIDAR survey gathering. In conjunction with the aerial survey work, ECI gathered pertinent weather and conductor data necessary for a complete "Maximum Operating Temperature" Analysis. The PLS-CADD files were used to

develop report summaries that identified spans where mitigation may be desired. Forward & Downward looking, high resolution, video technology was incorporated and synchronized in the PLS-CADD model. PLS-POLE models were used to increase the accuracy of the PLS-CADD model.



### KEY FACTS & HIGHLIGHTS

- ◆ **311 MILES EVALUATED**
- ◆ **COMPRISED 35 SEPARATE LINE SEGMENTS**
- ◆ **AERIAL LIDAR SURVEY TECHNIQUES WERE USED**
- ◆ **ECI ENHANCED THE TECHNIQUES DEVELOPED ON PREVIOUS PROJECTS TO EVALUATE THE THERMAL CAPACITY IN OF THE LINES.**
- ◆ **NEW VIDEO CAPABILITES WERE APPLIED IN THE EVALUATION.**

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