CVEA Transmission Line In the Line of Fire

Work site after an avalanche took out Structure 46-2 in 2003.

The CVEA transmission line was knocked out of service by an avalanche in the early morning of December 2, 2009. Structure 46-3 was destroyed in the event.

The transmission line has suffered extensive avalanche damage six times since 1988 and four times since 2000. The obvious question is, why doesn't CVEA do something to address this recurring problem? The answer is, now that we are the owner of the project, we plan to.

First, a bit of history. The transmission line was constructed in 1981, by CVEA, as part of the Solomon Gulch Hydroelectric Project. Solomon Gulch, including the transmission line, was sold to the State of Alaska in 1985 and in 2002 sold by the State to the Four Dam Pool Power Agency.

Under State/Four Dam Pool ownership, the policy in place to address avalanche risk on Thompson Pass was to do nothing. That point of view assumes the least expensive way to address the problem is to wait for avalanche damage to occur and repair the line when it does.

This short sighted approach might have saved the previous owners some money, but it ignored the operational and system reliability impacts to Copper Valley's customers.

In February 2009, CVEA acquired Solomon Gulch and the transmission line from the Four Dam Pool. An important consideration in acquiring the project was to evaluate and quantify the risk associated with the avalanche problem.

As part of the transfer of ownership from the Four Dam Pool, CVEA received $5 million dollars to address the avalanche problem.

In 2003, the Four Dam Pool prepared a reconnaissance level avalanche analysis of the transmission line in the Thompson Pass/Ptarmigan Creek section of the line. The report identified 15 options

Above: City Electric work crews on site on Thompson Pass in 2003, as they worked to replace Structure 46-2 which had been taken out by an avalanche. Below: Looking Southbound down the T-Line at Structures 46-3, 46-2, and 46-1.

to address risk, ranging in life cycle costs of $1.5 million to $11 million dollars.

Of the 15 options reviewed, the study team identified six mitigation options worthy of further consideration.

Those options include the following:

- Do nothing and set aside money for repairs
- Relocate the line west of the Richardson Highway
- Install avalanche deflection structures adjacent to existing towers
- Transfer existing structures to a new high reveal foundation
- Perform daily avalanche forecasting and control
- Some combination of the above options.

Each of the above mitigation options has its own pros, cons, and costs.

CVEA has undertaken a review of the 2003 analysis and intends to focus on identifying viable alternatives in 2010. Within the next year, CVEA expects to begin the design and permitting of a viable and reasonable solution to address avalanche risk. ■