

CABLECURE XLG[®] FLUID RESTORES LONG TERM RELIABILITY FOR FLOOD DAMAGED CABLE

COMPANY: EAST GRAND FORKS WATER & LIGHT
CONTACT: JEFF OLSON, DISTRIBUTION SUPERINTENDENT
LOCATION: EAST GRAND FORKS, MINNESOTA
WEBSITE: WWW.EGF.MN/244/WATER-LIGHT

"Our utility had this done back in the 90's and it cleared up the water intrusion and large number of faults that we were seeing."

- Jeff Olson, Distribution Superintendent

HIGHLIGHTS

- CableCure XLG[®] Fluid restores water-damaged cable by drying the conductor and preventing corrosion
- More than 500 services injected during the 2-month project, finishing on time before winter
- After more than 20 years, the failure rate of the CableCure XLG[®] Fluid is less than 1%

FLOOD KNOCKS OUT POWER FOR 600 HOMES

In the spring of 1997, the Red River overflowed its banks after a late snowfall was quickly followed by record setting heat. The rapid snow melt inundated the twin communities of Grand Forks, ND and East Grand Forks, MN with water and debris knocking out power to thousands of residents. Six hundred homes in the East Grand Forks community were flooded and without electric service. East Grand Forks Water & Light was desperately seeking ways to get the power back to the community and reached out to Southwire's Novinium Underground Services for help.



CABLECURE XLG[®] FLUID PURGES WATER & PREVENTS CORROSION



Secondary service cables primarily fail in service due to either full or partial loss of ampacity by the conductor due to corrosion. Corrosion commonly occurs when water enters the conductor and sits in contact with the aluminum strands for an extended period of time.

With the tight timeline to restore power prior to the first freeze, the clock was ticking to protect these cables from corrosion. System replacement was not an option due to budget, time and manpower constraints. East Grand Forks Water and Light met during the summer of 1997 to evaluate the situation. Under the guidance of FEMA, it was decided to proceed with the unconventional approach of cable injection. CableCure XLG[®] Fluid is a unique two-part mixture that transforms from a fast-flowing fluid into a non-flowable gel in approximately 48 hours. The injection of CableCure XLG[®] Fluid purges water from the conductor and forms a physical barrier against water intrusion that protects the conductor from corrosion.

POWER RESTORED TO HOMES BEFORE WINTER



Southwire's Novinium Underground Services crews began work in September and raced to complete the scope prior to the first freeze in November. Water that remained trapped in the cable during the sub-freezing temperatures could cause further damage to the cable insulation and delay their return to service until the following spring.

The injection process utilized an air driven fluid pump with a manifold that allowed multiple services to be injected simultaneously from the transformer. The service meters at the homes were pulled and the cables were allowed to drain into a catch basin to ensure a complete fill and that all water was purged from the cable.

In some cases, as much as 7 liters of fluid were collected from the triplex cable. Approximately 85% of the secondary lines to the affected homes were successfully injected. Of the 600 homes included in the scope, about 90 were found to have flat strand wire which would not flow. Typical secondary services measured 100 feet on average.

MORE THAN 20 YEARS OF CABLE RELIABILITY

After more than 20 years, the CableCure XLG[®] Fluid treated cable segments continue to deliver reliable power to the more than 500 homes they service. Jeff Olson, Distribution Superintendent, shared that "secondaries were already problematic at the utility" prior to 1997. Yet, since the injection of CableCure XLG[®] Fluid, only two failures have occurred on the treated cables. Olson was very pleased with the process and results and his customers were relieved that their service would not be impacted by any future flooding.