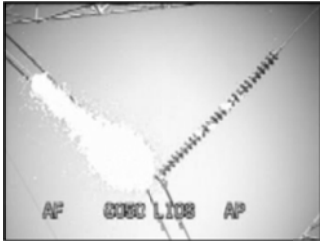


CASE STUDY



500kV Transmission Line Flash Over

In Late September 2004 SDG&E USA experienced a flashover on their 500KV line with porcelain insulators. The flashover was severe and the line could not be re-energized until repairs could be made.

Contamination was the major factor for the flashover:

A land developer had set up a temporary rock crushing operation a few hundred yards from the specific tie line producing large amounts of rock dust. At certain times of the day and night the wind was pushing this debris toward the towers.

Additionally, that area has experienced a dry year, with over 170 days without any rainfall. As a result the insulators were not being naturally cleaned and the contaminants were building up. At 5:30AM the fog rolled in off the ocean and wetted the insulators just enough to provide a path to ground.

Maintenance teams were asked to fly the tie line with a corona camera -DayCor® ROM in a stabilized gimbal. They identified several structures that needed cleaning. Insulators were hand wiped in remote areas or washed by truck where access was possible. After the line was re-energized it was scanned again with a corona camera to ensure there is no activity that might lead to flash over.