



Project 14-7: Best Practices for Copper Theft Deterrence

Final Report: June 2014; available online @ www.dstar.org

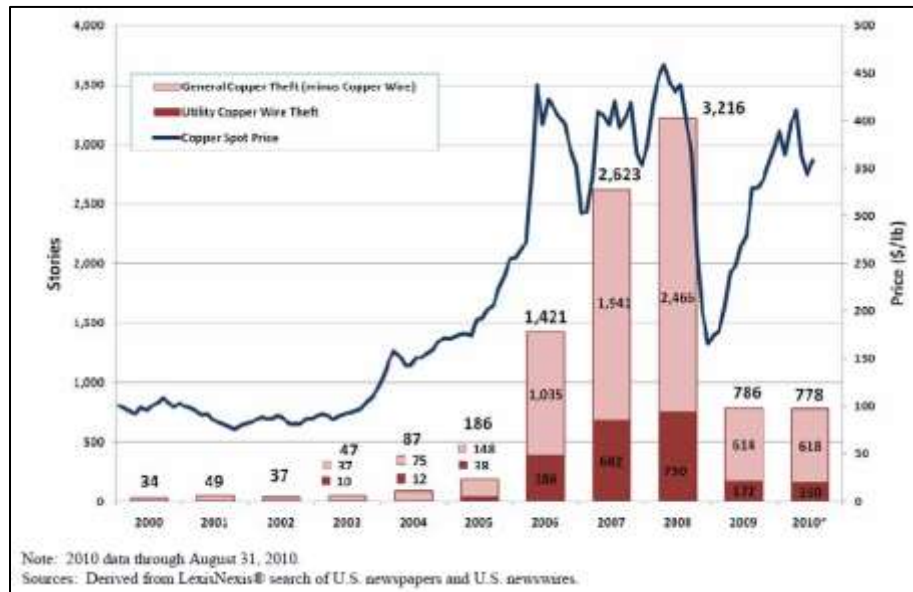
Project Summary:

This report summarizes industry best practices to deter copper theft. It includes economic, reliability-related, and other consequences of copper theft on utility systems. The report also identifies several countermeasures available and implemented by utilities for theft deterrence.

The report is based on information assembled from review of relevant research publications and reports, as well as a survey of DSTAR member organizations and a several other utilities. The survey was designed to gather information related to the level of concern about the copper theft, consequences faced as a result of incidents, and countermeasures implemented or planned for implementation.

Some of the key findings include:

- The price of copper is, not surprisingly, one of the major drivers of copper theft incidents. However, when the price of copper rose again after a steep drop in 2008 (see chart at right), the number of reported incidents did not increase proportionally; perhaps indicating that recent countermeasures are working.



Copper Price and Media Reports of Copper theft (US DOE 2010)

- Drug use, moderate climate, proximity to scrap dealers, population density, unemployment and poverty were other factors contributing to the problem, California and Florida recorded the most incidents in media reports from 2006 to 2010.
- Cost of copper theft is substantial to utilities with an estimated \$60 million every year across the US; one third of which is attributed to the cost of the stolen copper and the remaining associated with payment to repair crews and replacement cost of damaged equipment.
- Copper theft is responsible for an average of 432 customer-minutes out every year per utility.
- Copper theft poses a safety hazard to utility employees as well as the general public.

Several countermeasures were identified by utilities as being effective for copper theft deterrence. These include:

- Theft deterrents such as surveillance equipment, GPS tracking, alarms and intrusion detectors, better locks and fencing and wire protection mechanisms
- Wire devaluation methodologies such as copper clad steel, composite cable and wire markings
- Preventive measures such as lighting and vegetation management, signs and warning, patrol and guards, and prosecution
- Partnership with scrap metal dealers, law enforcement agencies, legislatures, other stakeholders and the general public

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Who Should Use:

Distribution Planning, Standards, Protection, Power Quality and Reliability Groups

For the complete report on Project 14-7: Best Practices for Copper Theft Deterrence, visit www.dstar.org.



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