



What would a power outage cost you?

Are you protected against potential power outages? Power supply interruptions at an oil refinery can be disastrous and can have many adverse affects.

- Loss of revenue
- Health & safety risks
- Increased labor
- Negative publicity
- Costly repairs
- Pollution implications & fines
- Lawsuits
- USFWS penalties & enforcements

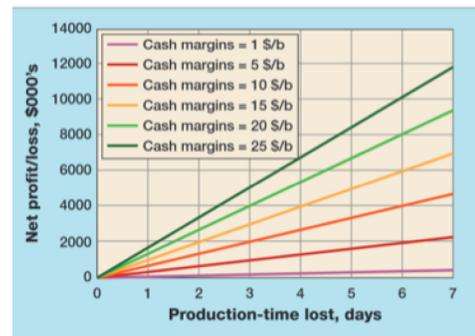


Greenjacket Inc. manufactures a precise fit class of cover-up that prevents animal and bird caused outages in substations. Greenjacket Inc. has over 900 molds and can manufacture protective covers for any type or make of substation or powerline electrical equipment. Greenjacket's precise fit covers means that gaps in coverage - where birds or animals can make contact with the underlying equipment resulting in outages or damaging equipment - are eliminated.

Electrical disruptions and power failures at refineries often cause immense damage in terms of lost production, excessive repair costs, environmental impact and safety concerns; this highlights the need to prevent outages from occurring. Electrical power is the lifeblood of the refinery and plant operation. An individual incident can run losses into millions of dollars a day. In 2012, the Phillips 66 refinery in New Jersey was down for 23 days. They estimated the lost revenue was over \$650 million US Dollars.*

Shell Oil had experienced two to three animal related outages a year, with each outage resulting in a minimum operating downtime of 6-24 hours. An expert was brought in to make recommendations and advised that installing precise fit insulating cover-up on equipment or structures with limited clearances was the best long term solution. Greenjacket, a precise fit cover-up, was implemented in 2009 and is now the standard for all new installs. There have been no further bird or animal caused outages since installation of Greenjacket six years ago. As a result, outage costs of up to \$30 million per year have been avoided. Shell's goal of protecting wildlife and improving the power reliability to the refineries was successful.

Profit losses in millions \$ over a 7 day period during a refinery shutdown.



Reference: Patrick J Christensen, William H Graf and Thomas W Yeung Hydrocarbon Publishing Company (Refinery power failures: causes, costs and solutions, 2013). <http://www.digitalrefining.com/article/1000773>

As the solution of choice, Greenjacket, has been deployed by Shell, Valero, Anadarko and Suncor Energy to protect against bird and animal related outages. By implementing Greenjacket refineries have protected against loss of production and fines, and ensured their continued productivity.

* Patrick J Christensen, William H Graf and Thomas W Yeung Hydrocarbon Publishing Company (Refinery power failures: causes, costs and solutions, July 2013)

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