



25 Juin 2003 Versailles, France

Panel Discussion

Insulated Power Cables: Power Quality and Reliability Issues

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EPRI

Insulated Power Cables: Power Quality and Reliability Issues

Paul M. Grant



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"The Problem"



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Insulated Power Cables: Power Quality and Reliability Issues

Wired Magazine, June 2001

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Generating Anger



Auckland, NZ
Feb - March 98

Massive UG Cable
Failure

NZ Financial
District without
full power for
8 weeks

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Power Out^zage



**"We are sick
and tired of
them, and they
had better
change!"**

*Chicago Mayor
Richard Daley on
the August 1999
Blackout*

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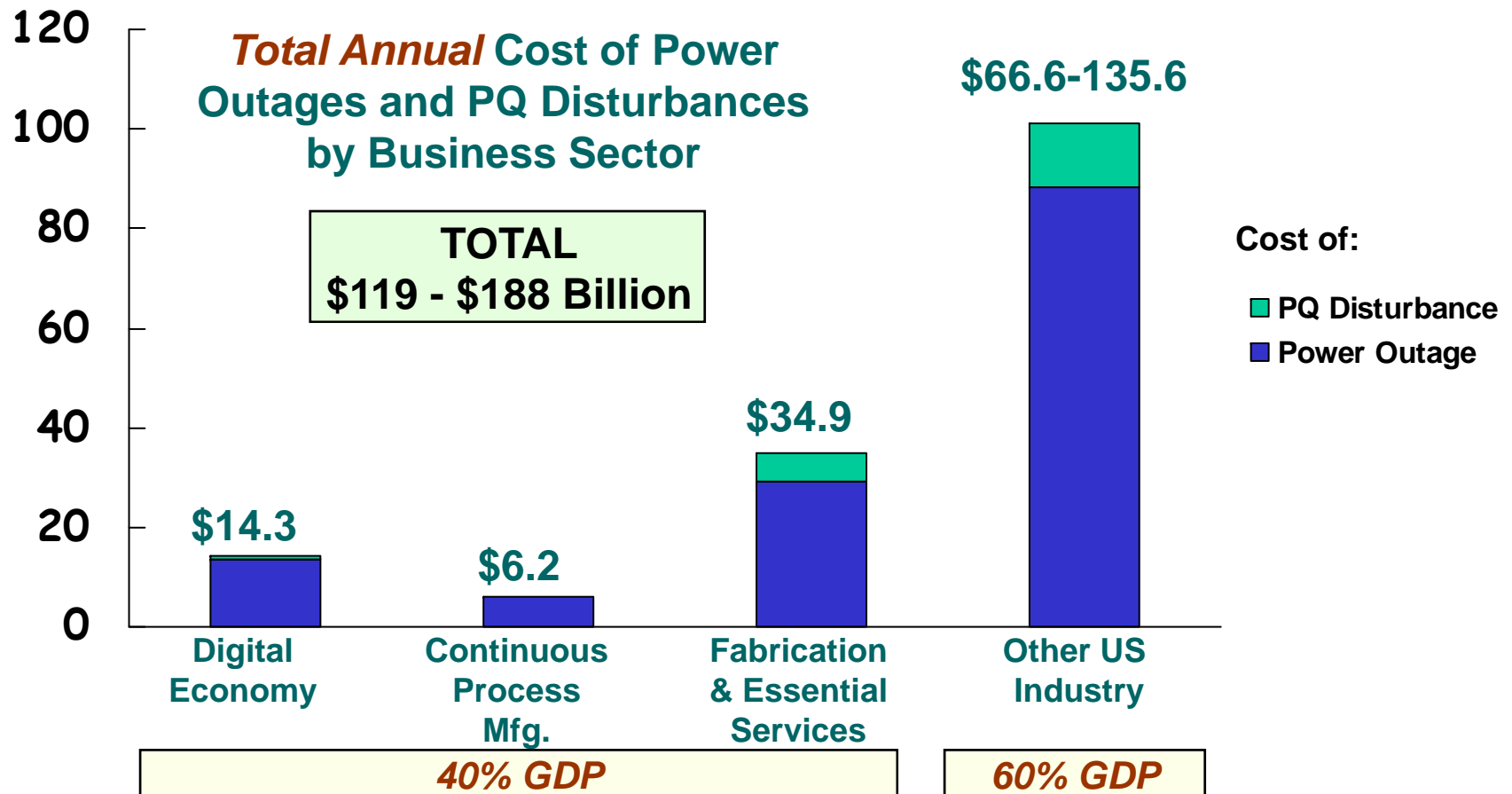
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Costs of Outages and Disturbances

\$Billion



Source: Primen Study: The Cost of Power Disturbances to Industrial & Digital Economy Companies



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Primen Report

Based on Response to 985 Questionnaires

- Outages: \$104- 106 B per annum
 - Industrial & DE: \$45.7 B per annum
 - PCM: Remainder
- PG Events: \$15 - 24 B per annum
 - Industrial & DE : \$6.7 B per annum
 - PCM: Remainder



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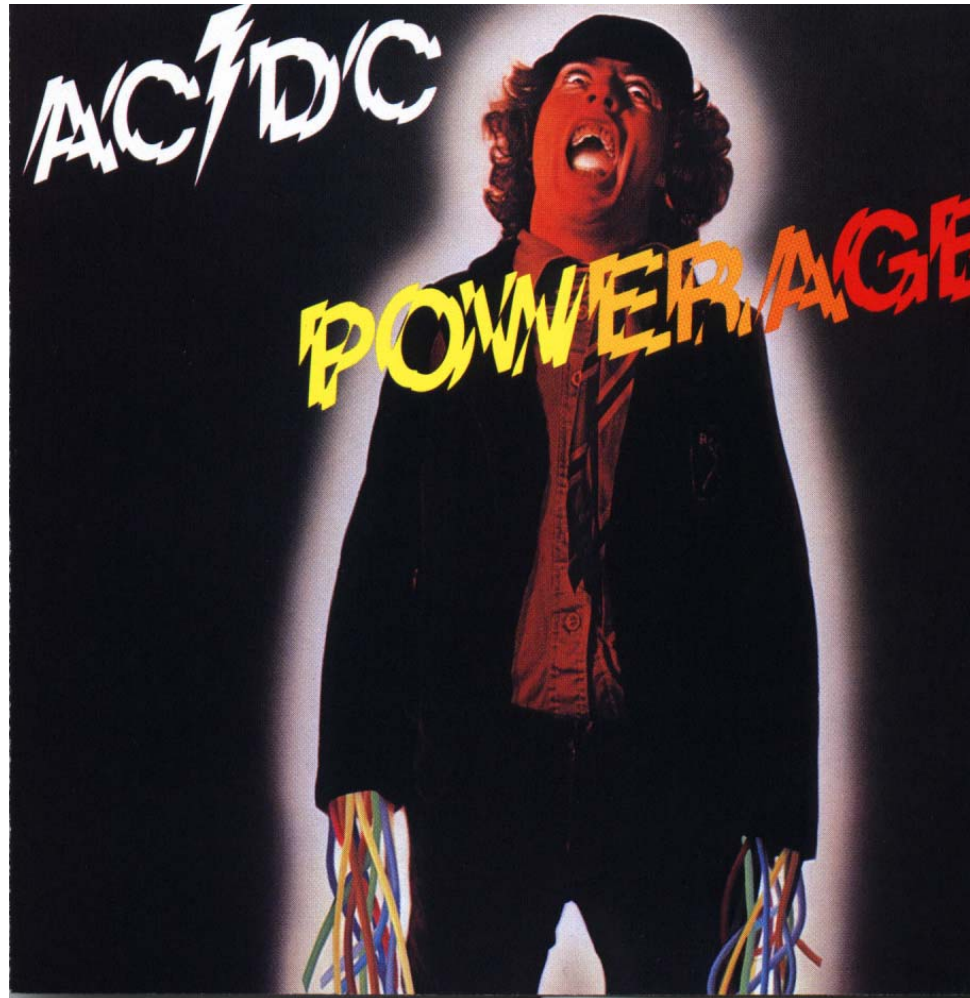
LBLN Study

- Based on Insurance Claims & Actions by Over 370 Industries Consuming TWh/a
- US Office Equipment, 58 TWh/a, 2% of National Consumption
- Most Sensitive Consumers Protect Themselves as COB Item
- Exact Losses Hard to Quantify



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Californication!



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