

CLAIMS PERSPECTIVE

# THE IMPACT OF LARGE LOSSES IN THE GLOBAL POWER INDUSTRY



OCTOBER 2012

# CONTENTS

|                                        |   |
|----------------------------------------|---|
| Introduction                           | 1 |
| Insurance Claims in the Power Industry | 2 |
| — Efficiency Push Raises New Issues    |   |
| — Increased Damage from Loss Events    |   |
| Examining the Full Loss Cost           | 5 |
| — Large Loss Issues                    |   |
| Conclusion                             | 7 |
| Appendix                               | 8 |

## INTRODUCTION

Over the past decade, a number of large losses have shone the spotlight on the global power industry as never before. Governments, regulators, environmentalists, shareholders, the media, and the general public are keenly aware of the financial and environmental damage that can result from incidents and accidents in the power industry. For example, the March 2011 earthquake, tsunami, and nuclear event in Japan not only rocked global supply chains, but caused many stakeholders to take a hard look at the power industry worldwide.

Since 2005, not a year has passed without the industry seeing at least one—and in most years more than one—large claim, defined as those greater than US\$25 million. This pattern of large losses puts extreme pressure on both the supply of global power and the future of the industry. Other changes over the past 20 years add to the challenges facing power organizations, for example an aging workforce; deteriorating equipment; a growing demand for electricity, including from emerging economies; and resource issues, from environmental concerns to the development of so-called green energy sources.

The changing profile of losses within the industry has led to a tightening of underwriting standards and risk engineering requirements from many insurers. As the power industry moves through stormy waters, the questions remain: Will this pattern continue? What other challenges will arise?

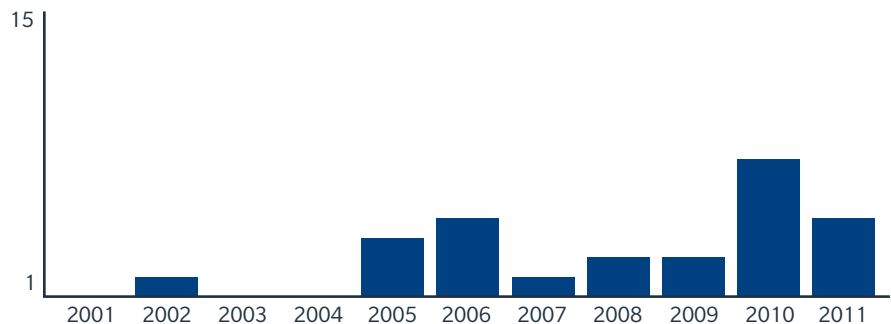
This report provides a high-level overview of large losses within the industry over the past decade. The study is based on claims that have arisen from the operational power accounts handled by Bowring Marsh, Marsh's wholesale international placement division. Given the large number of clients included in the database, the losses are representative of the entire sector.

Understanding recent large losses can help power organizations better identify and manage their risks, potentially preventing or mitigating future accidents and incidents.

## INSURANCE CLAIMS IN THE POWER INDUSTRY

The insurance industry has paid large sums for many power losses, stemming from machinery breakdown, fire and explosion, natural perils, and business interruption. As a result, the power industry is often perceived by insurers as being high risk. The best way to determine whether this perception is accurate is to review a history of some of the large losses incurred by the insurers who provide coverage to the global power industry.

### CLAIMS GREATER THAN US\$25 MILLION 2001–2011



Source: Bowring Marsh

### EFFICIENCY PUSH RAISES NEW ISSUES

The economic downturn that began in 2008 has had two key impacts on the power industry in a large number of geographies:

1. A decline in demand for energy in 2009 as a result of a drop in industrial activity.
2. A reduction in investment capital and a reluctance to incur debt on projects.

Nonetheless, despite the dip in 2009, the overall demand for power is increasing. And the reduction in available financing has served to increase interest from shareholders and other stakeholders in running more efficiently, tightening risk management controls, and improving communication.

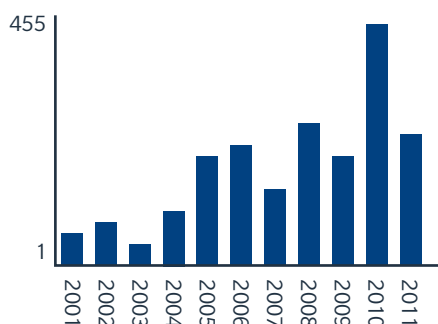
A drive for increased efficiency, however, raises many issues. For example, modern gas-fired power stations operate at higher temperatures in order to increase fuel efficiency. This is logical at a time of rising fuel costs and amid concerns as to the reliability of fuel supply. However, in some cases this may lead power operators to ask insurers to cover new and allegedly unproven technologies, such as prototypes. At the other end of the spectrum, older power plants often are operated beyond their design age, increasing the risk of loss from aging, interdependent equipment.

## INCREASED DAMAGE FROM LOSS EVENTS

The reality is that neither the best management practices nor the best quality equipment grant immunity from loss. And while losses are a reality in every industry, the amount of damage that power companies have felt in recent years has increased. Many factors come into play when determining the financial loss from a single event. Following are some of the most prominent issues coming into play regarding power losses over the past decade.

### TOTAL CLAIMS LOSSES PER YEAR

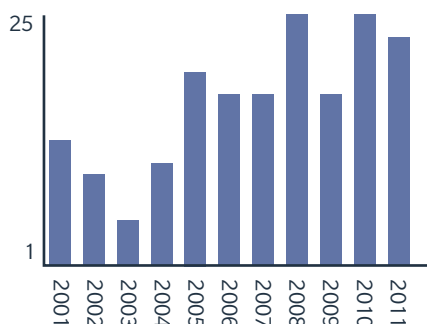
AVERAGE: US\$190 MILLION PER YEAR



Source: Bowring Marsh

### NUMBER OF EVENTS PER YEAR

AVERAGE: 14 EVENTS PER YEAR



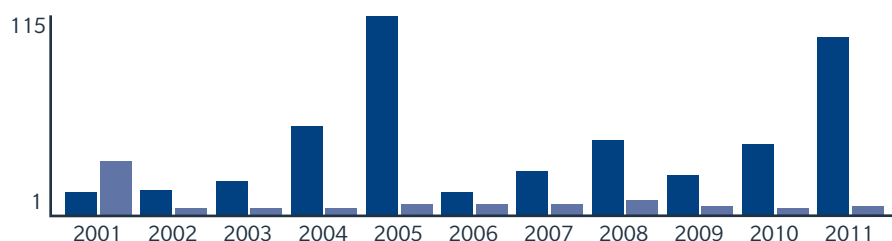
Source: Bowring Marsh

## FREQUENT AND DEVASTATING NATURAL CATASTROPHES

Natural catastrophes—particularly earthquakes, wind storms, and floods—have been frequent and severe in recent years. Many events have occurred in developing parts of the world, where the population has risen significantly, bringing with it an increase in the size and value of infrastructure. Consider some of the major weather events of the past 10 years: hurricanes Charley, Frances, Ivan, Katrina, Rita, and Ike; floods in Pakistan, Thailand and Australia; and earthquakes and resulting tsunamis in Indonesia and Japan. Each of these events damaged power facilities and/or transmission and distribution networks and disrupted customer demand.

### GLOBAL CATASTROPHE INSURED LOSSES 2001–2011 (US\$ BILLIONS)

● NATURAL ● MAN-MADE



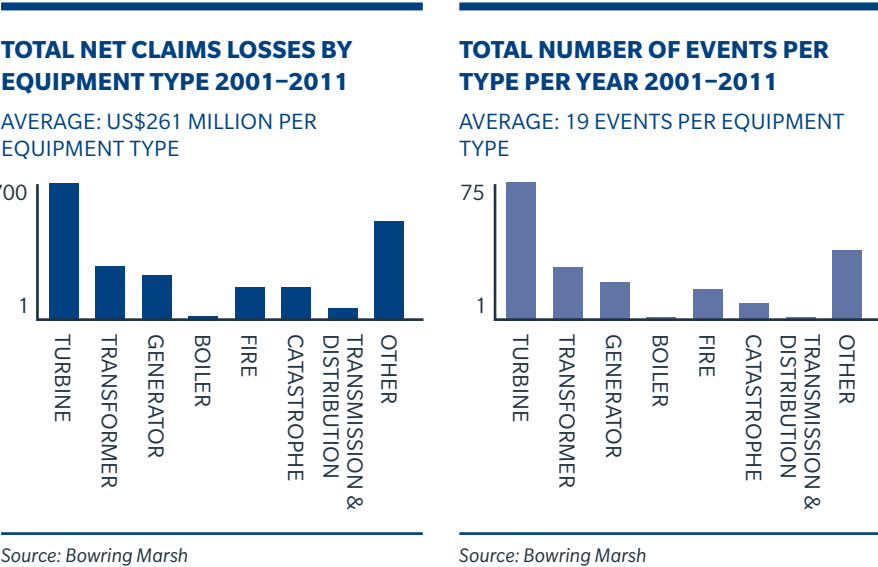
Source: Swiss Re, Guy Carpenter

INFRASTRUCTURE RELATED ISSUES

The condition of infrastructure—including roads, bridges, and transportation hubs—in the areas near to and leading to the location of a loss can have an effect on the ultimate financial size of the claim. The inability to transport damaged equipment, or to even enter damaged premises, causes delays in rebuilding, additional expenses, and subsequent business interruption. Such issues can be exacerbated when losses occur in developing areas.

INCREASED VALUE OF EQUIPMENT

As the complexity of technology and the cost of raw materials have increased, so too has the value of equipment. From 2001 to 2011, the largest equipment-type losses incurred at power generation facilities were from machinery breakdowns to turbines, transformers, and generators. Out of total net claims for this period of more than US\$2 billion, claims attributed to these equipment types accounted for nearly US\$1.2 billion.



ADDITIONAL LOSSES

Even when power stations themselves are not substantially affected, transmission and distribution (T&D) losses—together with a drop in demand when factories, hotels, and the like are damaged—can cause significant financial harm to the local power industry. Difficulties with suppliers, for example a disruption in coal or gas supplies, also will cause losses to the power industry, by reducing the direct supply and/or by increasing spot-market prices.

Loss of supply to customers also can lead to indirect losses, for instance the demand by regulators for the set-aside of funds for use after catastrophes. That was the case, for example, after the extensive T&D losses incurred as a result of Hurricane Andrew in 1992, and Hurricane Charley and Hurricane Frances in 2004.

## EXAMINING THE FULL LOSS COST

Although the insurance losses incurred over the last five to ten years have been significant, it is important to remember that these figures represent only part of the financial loss that is actually sustained by an owner. Significant losses are not only a burden for insurers, but are likely to bring serious disruption to any company's operation, while also impacting its share price.

Additional loss costs not covered by insurance may include:

- Bodily injury to employees.
- Fines.
- Business interruption.
- Any excess or deductible.
- Employee time handling the loss.
- Resolving concerns from regulators, captives, shareholders, and stakeholders.

More difficult to calculate but potentially even more vital to the balance sheet is the effect of negative public perception on investor confidence and damage to the brand. Such soft costs can be significant when the value of reputation is considered, especially given the background of mergers and takeovers in the power industry. Inevitably, poor loss records will lead to direct increases in premium cost for future renewals and a desire among insurers for higher deductibles and excess layering.

Potentially even more vital to the balance sheet is the effect of negative public perception on investor confidence and damage to the brand.

## LARGE LOSS ISSUES

When a power company experiences a large loss, it creates a host of additional issues that can add further pressure to an already strained or vulnerable organization.

Some of the major issues that can arise from losses within the power industry include:

### BROAD EFFECTS OF LOSS

- Damage to plant, customers, suppliers, and transmission and/or distribution networks.
- Negative impact on customers.
- Cultural and regulatory concerns, for example, gaining permission to rebuild and working with permanent customer relocation.
- Seizure and nationalization of assets.
- Share price and shareholder relationships.

#### EMPLOYEE ISSUES

- Retaining key employees during downtime.
- Managing employee welfare.
- Balancing employee family issues with the needs of the company.

#### CLAIMS HANDLING ISSUES

- Presenting claims and calculating business-interruption loss using employee resources that may already be stretched handling other aspects of the emergency.
- Accessing the site and facilities for investigation.
- Coping with language and other communication issues.
- Increasing costs of labor and restoration materials due to increased demand.
- Managing repairs, replacement, and relocation.
- Working with long lead times for replacement of specialist equipment.

#### OPERATIONAL ISSUES

- Monitoring and managing spot-market pricing.
- Working through difficulties with parent company.
- Managing knock-on effects on subsidiary companies.
- Managing environmental impact.
- Allaying public and regulator concerns.
- Managing insurer and reinsurer demands.
- Understanding and working with occurrences and 72-hour limitations.

## CONCLUSION

A general firming of insurance prices for the power industry may indicate that insurers view the potential for writing power business as somewhat challenging. Large claims are the ones that can cause a significant impact to bottom line profitability for insureds and insurers alike. They are the types of loss for which effective and accurate claims resolution is a must for all parties involved.

If large claims continue to occur regularly with heightened frequency within the power industry, insurers' appetites for writing power business may be dampened. In turn, this could bring an overall drop in capacity, a reduction in market competition, and a rise in premiums. Such a scenario could cause significant difficulties for operating companies in an industry that provides a vital service while facing the same economic difficulties as others in a constantly changing regulatory environment.

The global power industry faces risks on a number of fronts: rising prices, new technology, heightened regulator and customer scrutiny, and uncertainty surrounding methods and types of power generation. Against such a backdrop, it is essential for organizations to understand the potential impact of unexpected large losses, to have the best possible plans in place to prevent and mitigate those losses, and to be prepared to quickly and efficiently work with insurers, brokers, and others to resolve any ensuing claims.



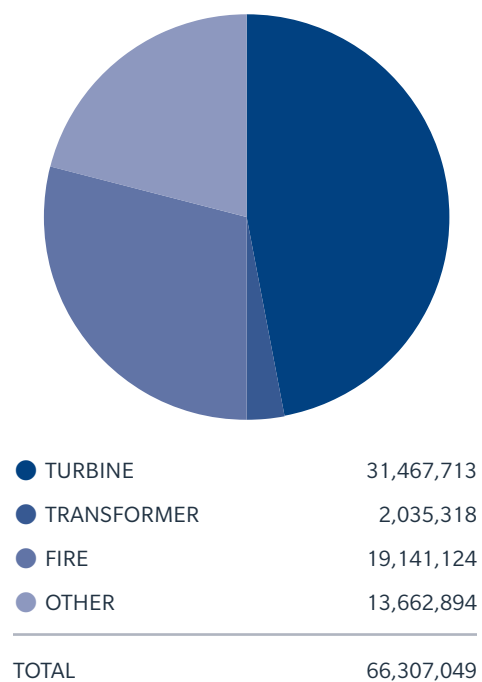
# APPENDIX

## LARGE LOSSES IN THE POWER INDUSTRY 2001–2011

In the course of this study, we have gathered data on all power accounts handled by Bowring Marsh in London. The information presented in this section represents a selection of claims that have incurred a net loss of more than US\$2 million to insurers, net of any applicable deductible, excess or retention. It should be stressed that the study is based on claims that have arisen from the operational power accounts handled by Bowring Marsh, Marsh's wholesale international placement division. Given the large number of clients included in the database, the losses are representative of the entire sector.

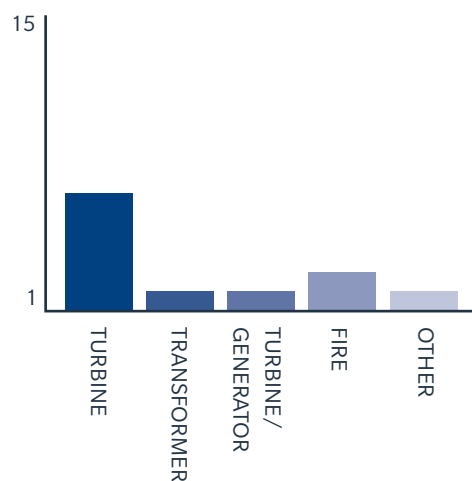
2001

## NET CLAIMS LOSSES BY EQUIPMENT TYPE (US\$)



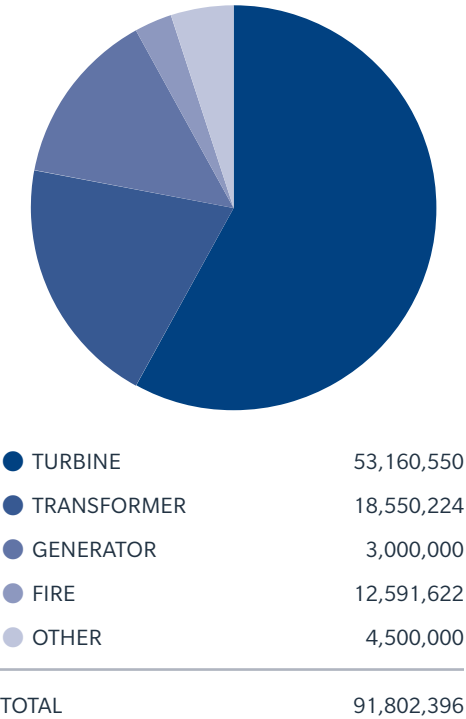
| LOSS TYPE         | UNIT FUEL TYPE | DATE OF LOSS | US\$ NET AMOUNT TO INSURERS |
|-------------------|----------------|--------------|-----------------------------|
| Turbine           | Gas/Oil        | Jan 2001     | 6,557,959                   |
| Turbine           | Gas            | Feb 2001     | 3,408,878                   |
| Other             | Coal           | Apr 2001     | 11,166,894                  |
| Transformer       | Gas            | May 2001     | 2,035,318                   |
| Fire              | Nuclear        | May 2001     | 13,141,124                  |
| Turbine/Generator | Gas            | May 2001     | 6,950,000                   |
| Other             | Nuclear        | Jul 2001     | 2,496,000                   |
| Turbine           | Coal           | Aug 2001     | 3,760,228                   |
| Turbine           | Gas            | Nov 2001     | 2,130,146                   |
| Fire              | Gas            | Nov 2001     | 6,000,000                   |
| Turbine           | Coal/Gas       | Nov 2001     | 8,660,502                   |
| TOTAL             |                |              | 66,307,049                  |

## NUMBER OF EVENTS PER EQUIPMENT TYPE



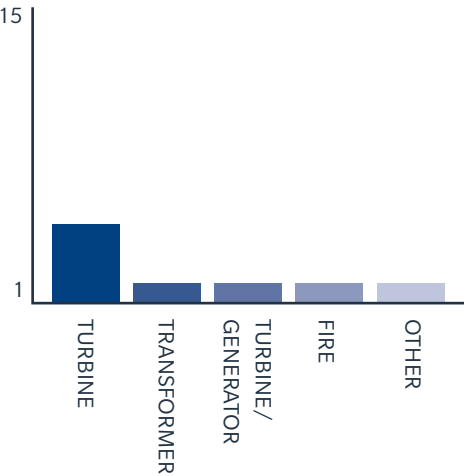
# 2002

NET CLAIMS LOSSES BY EQUIPMENT TYPE (US\$)



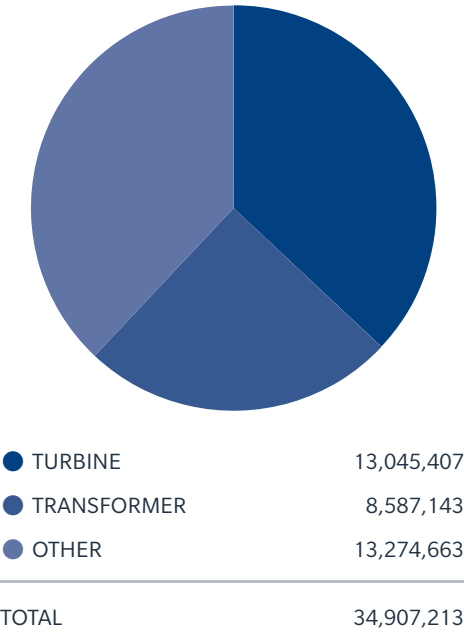
| LOSS TYPE   | UNIT FUEL TYPE | DATE OF LOSS | US\$ NET AMOUNT TO INSURERS |
|-------------|----------------|--------------|-----------------------------|
| Transformer | Coal           | Jan 2002     | 18,550,244                  |
| Turbine     | Gas            | Feb 2002     | 5,627,312                   |
| Generator   | Gas            | Mar 2002     | 3,000,000                   |
| Turbine     | Gas            | May 2002     | 39,000,000                  |
| Turbine     | Gas            | Jun 2002     | 4,548,308                   |
| Turbine     | Gas            | Sep 2002     | 3,984,930                   |
| Fire        | Gas            | Oct 2002     | 12,591,622                  |
| Other       | Gas            | Nov 2002     | 4,500,000                   |
| TOTAL       |                |              | 91,761,416                  |

NUMBER OF EVENTS PER EQUIPMENT TYPE



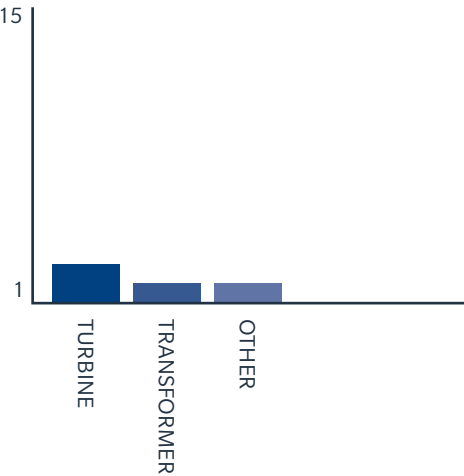
2003

NET CLAIMS LOSSES BY EQUIPMENT TYPE (US\$)



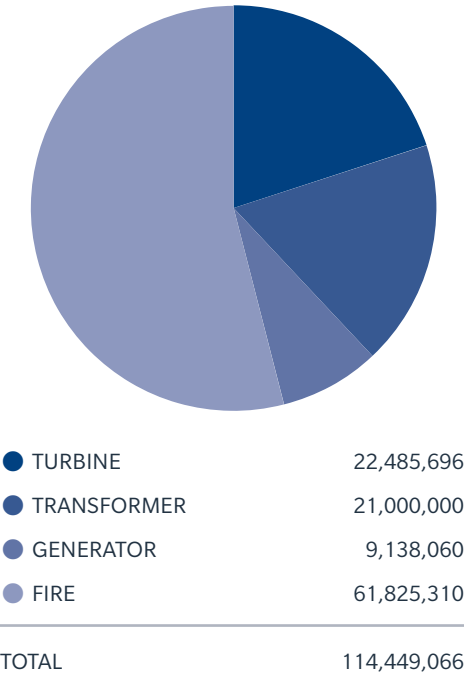
| LOSS TYPE   | UNIT FUEL TYPE | DATE OF LOSS | US\$ NET AMOUNT TO INSURERS |
|-------------|----------------|--------------|-----------------------------|
| Other       | Hydro          | Feb 2003     | 13,274,663                  |
| Transformer | —              | Mar 2003     | 8,587,143                   |
| Turbine     | Gas            | May 2003     | 4,708,236                   |
| Turbine     | Gas            | Sep 2003     | 8,337,171                   |
| TOTAL       |                |              | 34,907,213                  |

NUMBER OF EVENTS PER EQUIPMENT TYPE



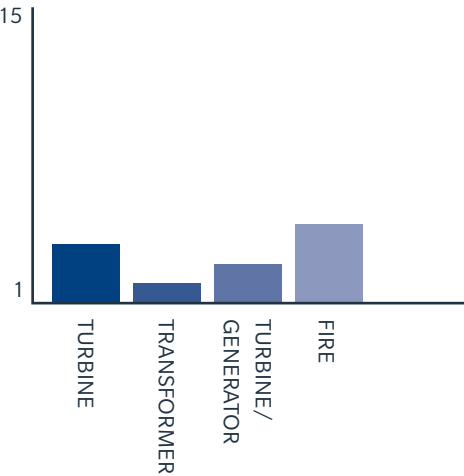
# 2004

NET CLAIMS LOSSES BY EQUIPMENT TYPE (US\$)



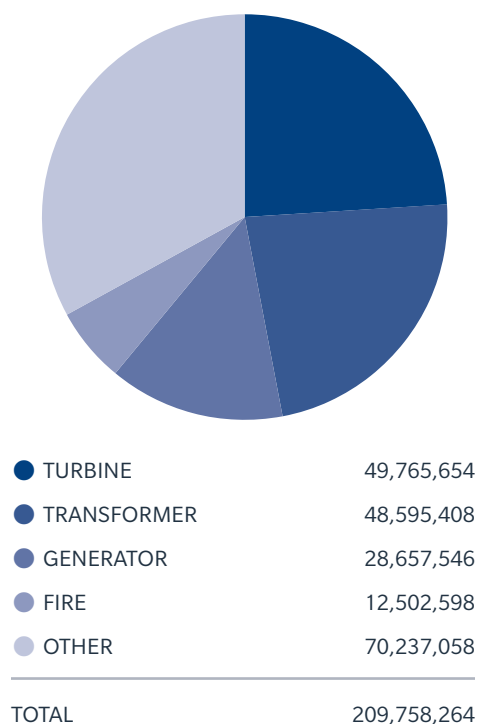
| LOSS TYPE   | UNIT FUEL TYPE | DATE OF LOSS | US\$ NET AMOUNT TO INSURERS |
|-------------|----------------|--------------|-----------------------------|
| Fire        | Gas            | Jan 2004     | 23,500,000                  |
| Transformer | Nuclear        | Mar 2004     | 21,000,000                  |
| Generator   | Oil            | Apr 2004     | 7,009,480                   |
| Fire        | Coal           | May 2004     | 3,375,708                   |
| Fire        | Coal           | Jul 2004     | 17,916,000                  |
| Turbine     | Gas            | Jul 2004     | 17,800,000                  |
| Turbine     | Gas            | Sep 2004     | 2,444,237                   |
| Turbine     | Gas            | Oct 2004     | 2,241,459                   |
| Generator   | —              | Nov 2004     | 2,128,580                   |
| Fire        | Coal/Gas       | Dec 2004     | 17,033,602                  |
| TOTAL       |                |              | 114,249,066                 |

NUMBER OF EVENTS PER EQUIPMENT TYPE

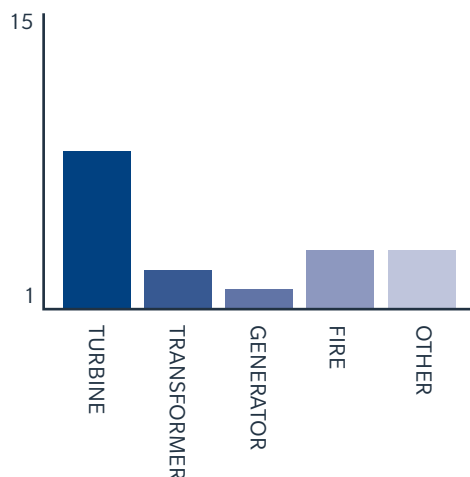


## 2005

### NET CLAIMS LOSSES BY EQUIPMENT TYPE (US\$)



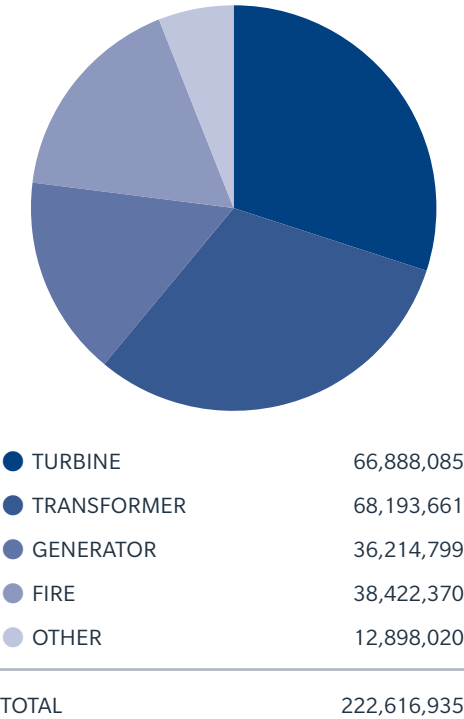
### NUMBER OF EVENTS PER EQUIPMENT TYPE



| LOSS TYPE    | UNIT FUEL TYPE | DATE OF LOSS | US\$ NET AMOUNT TO INSURERS |
|--------------|----------------|--------------|-----------------------------|
| Other        | Nuclear        | Jan 2005     | 2,457,456                   |
| Turbine      | Nuclear        | Jan 2005     | 4,044,882                   |
| Turbine      | Coal           | Feb 2005     | 2,200,000                   |
| Turbine      | Thermal        | Mar 2005     | 5,895,910                   |
| Other        | Nuclear        | Apr 2005     | 61,500,000                  |
| Turbine      | Gas            | May 2005     | 7,123,350                   |
| Transformer  | Gas            | May 2005     | 45,296,733                  |
| Turbine      | Gas            | Jul 2005     | 11,750,783                  |
| Turbine      | Oil            | Jul 2005     | 12,901,079                  |
| Fire         | Coal           | Aug 2005     | 2,157,374                   |
| Fire         | Thermal        | Aug 2005     | 7,736,076                   |
| Transformer  | Gas            | Oct 2005     | 3,298,675                   |
| Generator    | Nuclear        | Nov 2005     | 28,657,546                  |
| Fire         | Bio Mass       | Nov 2005     | 2,609,148                   |
| Turbine      | Gas            | Nov 2005     | 5,849,650                   |
| Other        | Diesel         | Dec 2005     | 6,279,602                   |
| <b>TOTAL</b> |                |              | <b>209,758,264</b>          |

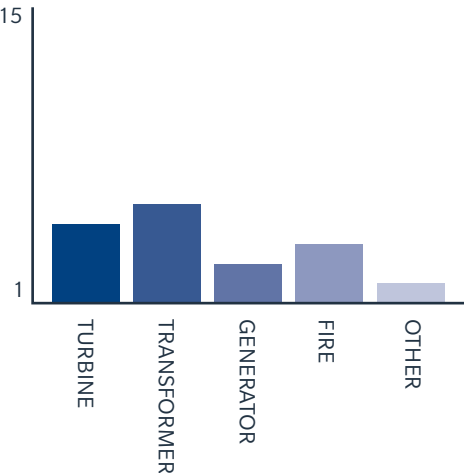
2006

NET CLAIMS LOSSES BY EQUIPMENT TYPE (US\$)

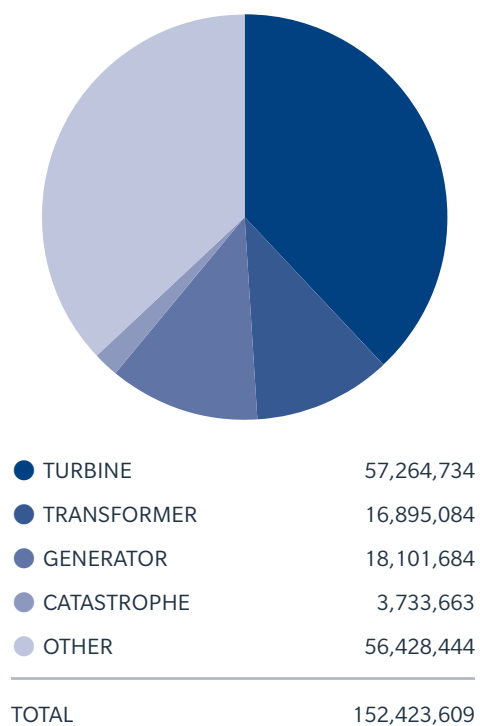
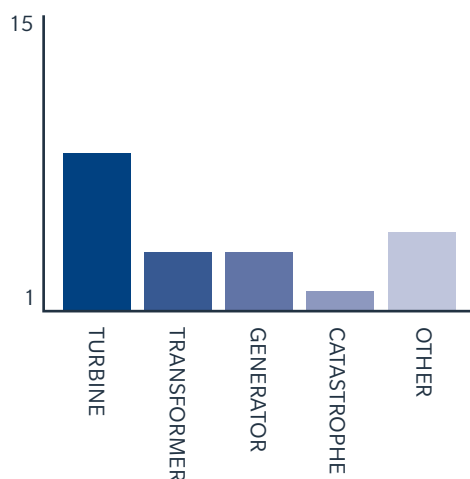


| LOSS TYPE   | UNIT FUEL TYPE | DATE OF LOSS | US\$ NET AMOUNT TO INSURERS |
|-------------|----------------|--------------|-----------------------------|
| Turbine     | Gas            | Jan 2006     | 23,598,814                  |
| Transformer | Coal           | Jan 2006     | 42,341,422                  |
| Transformer | Coal           | Jan 2006     | 11,150,718                  |
| Transformer | Coal           | Jan 2006     | 10,816,645                  |
| Transformer | Gas            | Feb 2006     | 2,401,325                   |
| Generator   | Oil            | Mar 2006     | 26,962,116                  |
| Fire        | Coal           | Jul 2006     | 7,545,744                   |
| Turbine     | Gas            | Jul 2006     | 7,362,209                   |
| Other       | Nuclear        | Jul 2006     | 12,898,020                  |
| Turbine     | Gas            | Jul 2006     | 1,327,262                   |
| Generator   | Gas            | Aug 2006     | 9,252,683                   |
| Fire        | Gas            | Aug 2006     | 4,250,000                   |
| Fire        | Coal           | Oct 2006     | 26,626,626                  |
| Turbine     | Gas            | Nov 2006     | 34,599,800                  |
| Transformer | —              | Dec 2006     | 1,483,551                   |
| TOTAL       |                |              | 222,616,935                 |

NUMBER OF EVENTS PER EQUIPMENT TYPE



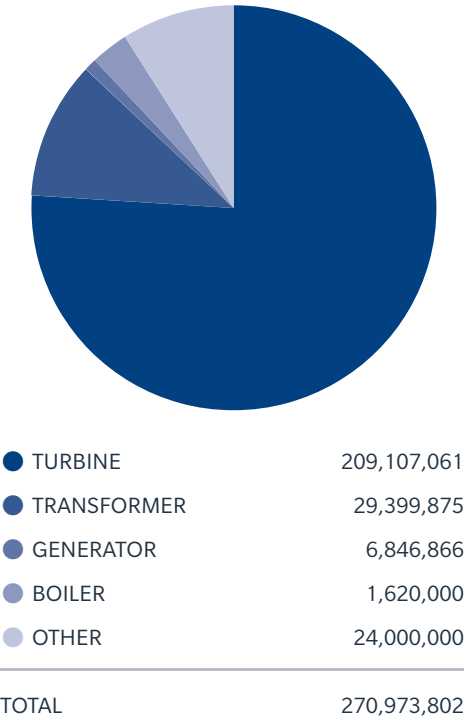
## 2007

NET CLAIMS LOSSES BY  
EQUIPMENT TYPE (US\$)NUMBER OF EVENTS PER  
EQUIPMENT TYPE

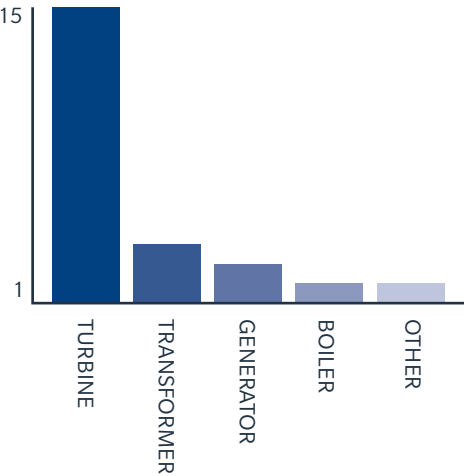
| LOSS TYPE   | UNIT FUEL TYPE | DATE OF LOSS | US\$ NET AMOUNT TO INSURERS |
|-------------|----------------|--------------|-----------------------------|
| Transformer | Gas            | Feb 2007     | 3,152,950                   |
| Turbine     | Gas            | Feb 2007     | 11,872,000                  |
| Other       | —              | Feb 2007     | 2,638,624                   |
| Turbine     | Coal           | Mar 2007     | 4,549,760                   |
| Turbine     | Gas            | Mar 2007     | 4,266,436                   |
| Generator   | Oil/Gas        | Apr 2007     | 3,025,000                   |
| Transformer | —              | Apr 2007     | 10,441,900                  |
| Turbine     | Hydro          | Apr 2007     | 4,706,255                   |
| Catastrophe | —              | Jun 2007     | 3,733,663                   |
| Other       | Hydro          | Jun 2007     | 5,500,000                   |
| Turbine     | Gas            | Jul 2007     | 11,439,626                  |
| Other       | —              | Jul 2007     | 3,289,820                   |
| Transformer | Gas            | Jul 2007     | 3,300,234                   |
| Turbine     | Coal           | Aug 2007     | 14,387,757                  |
| Turbine     | Coal           | Oct 2007     | 2,970,000                   |
| Turbine     | Gas            | Oct 2007     | 3,072,900                   |
| Other       | Coal           | Nov 2007     | 45,000,000                  |
| Generator   | Gas            | Nov 2007     | 10,500,000                  |
| Generator   | Gas            | Nov 2007     | 4,576,684                   |
| TOTAL       |                |              | 152,423,609                 |

2008

NET CLAIMS LOSSES BY EQUIPMENT TYPE (US\$)



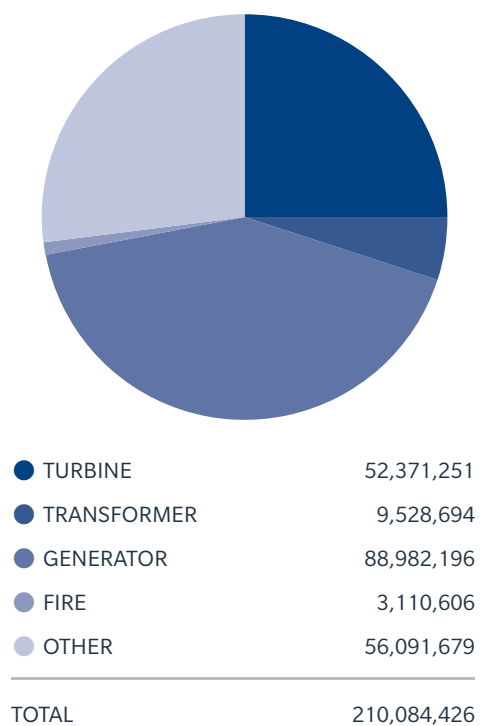
NUMBER OF EVENTS PER EQUIPMENT TYPE



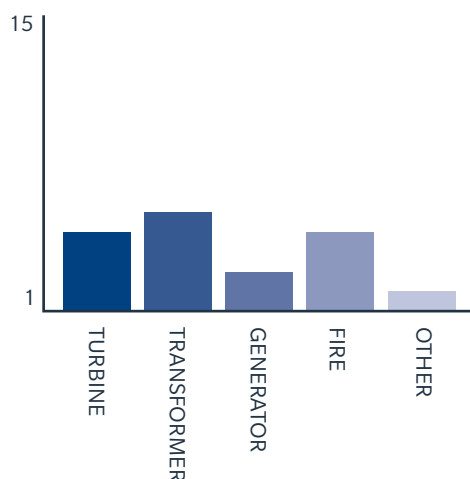
| LOSS TYPE   | UNIT FUEL TYPE | DATE OF LOSS | US\$ NET AMOUNT TO INSURERS |
|-------------|----------------|--------------|-----------------------------|
| Turbine     | Gas            | Mar 2008     | 5,000,000                   |
| Turbine     | Gas            | Apr 2008     | 31,797,514                  |
| Transformer | Gas            | Apr 2008     | 2,004,467                   |
| Turbine     | Gas            | Apr 2008     | 2,146,313                   |
| Turbine     | Gas            | May 2008     | 6,519,993                   |
| Turbine     | Gas            | Jun 2008     | 2,330,665                   |
| Turbine     | Gas            | Jul 2008     | 4,500,000                   |
| Turbine     | Coal           | Jul 2008     | 22,117,500                  |
| Turbine     | Gas            | Aug 2008     | 19,706,979                  |
| Turbine     | Coal           | Aug 2008     | 24,157,500                  |
| Turbine     | Hydro          | Aug 2008     | 3,730,431                   |
| Turbine     | Gas            | Sep 2008     | 3,990,914                   |
| Transformer | Gas            | Sep 2008     | 15,704,503                  |
| Turbine     | Gas            | Oct 2008     | 7,000,000                   |
| Generator   | Gas            | Oct 2008     | 2,221,866                   |
| Boiler      | Coal           | Oct 2008     | 1,620,000                   |
| Turbine     | Hydro          | Nov 2008     | 58,700,000                  |
| Turbine     | Gas            | Nov 2008     | 13,234,252                  |
| Turbine     | Gas            | Nov 2008     | 4,175,000                   |
| Generator   | Coal           | Dec 2008     | 4,625,000                   |
| Other       | Coal           | Dec 2008     | 24,000,000                  |
| Transformer | Gas            | Dec 2008     | 11,690,905                  |
| TOTAL       |                |              | 270,973,802                 |

2009

## NET CLAIMS LOSSES BY EQUIPMENT TYPE (US\$)



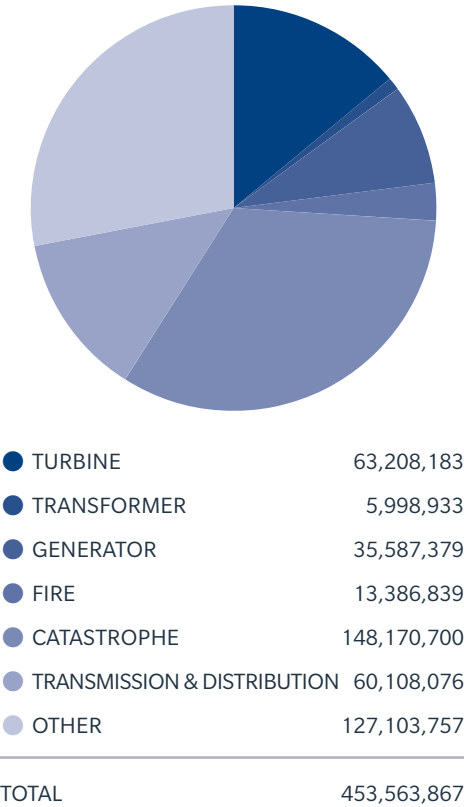
## NUMBER OF EVENTS PER EQUIPMENT TYPE



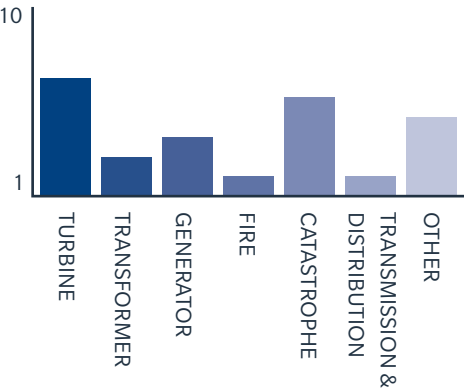
| LOSS TYPE   | UNIT FUEL TYPE | DATE OF LOSS | US\$ NET AMOUNT TO INSURERS |
|-------------|----------------|--------------|-----------------------------|
| Transformer | Gas            | Jan 2009     | 1,811,054                   |
| Fire        | Wind           | Feb 2009     | 3,110,606                   |
| Other       | Hydro          | Mar 2009     | 32,310,610                  |
| Turbine     | Gas            | Mar 2009     | 2,393,021                   |
| Generator   | Gas            | Mar 2009     | 1,469,728                   |
| Turbine     | Gas            | Mar 2009     | 2,926,630                   |
| Turbine     | Hydro          | Apr 2009     | 2,550,000                   |
| Generator   | Hydro          | May 2009     | 9,495,543                   |
| Turbine     | Gas            | May 2009     | 23,100,000                  |
| Transformer | —              | May 2009     | 2,173,150                   |
| Turbine     | Gas            | May 2009     | 4,641,418                   |
| Other       | Hydro          | May 2009     | 16,089,000                  |
| Turbine     | Gas            | May 2009     | 2,510,867                   |
| Generator   | Gas            | May 2009     | 37,500,000                  |
| Generator   | Diesel         | Jun 2009     | 3,359,076                   |
| Generator   | Gas            | July 2009    | 9,001,172                   |
| Generator   | Gas            | July 2009    | 7,500,000                   |
| Transformer | Gas            | July 2009    | 5,544,490                   |
| Turbine     | Gas            | July 2009    | 2,500,000                   |
| Generator   | Coal           | Aug 2009     | 5,089,188                   |
| Turbine     | Thermal        | Aug 2009     | 3,265,707                   |
| Turbine     | Gas            | Oct 2009     | 2,364,081                   |
| Turbine     | Gas            | Oct 2009     | 2,950,000                   |
| Turbine     | Gas            | Oct 2009     | 3,169,527                   |
| Generator   | —              | Nov 2009     | 9,000,000                   |
| Other       | Coal           | Nov 2009     | 5,482,750                   |
| Generator   | Diesel         | Nov 2009     | 3,909,441                   |
| Other       | Gas            | Dec 2009     | 2,209,319                   |
| TOTAL       |                |              | 210,084,426                 |

2010

NET CLAIMS LOSSES BY EQUIPMENT TYPE (US\$)



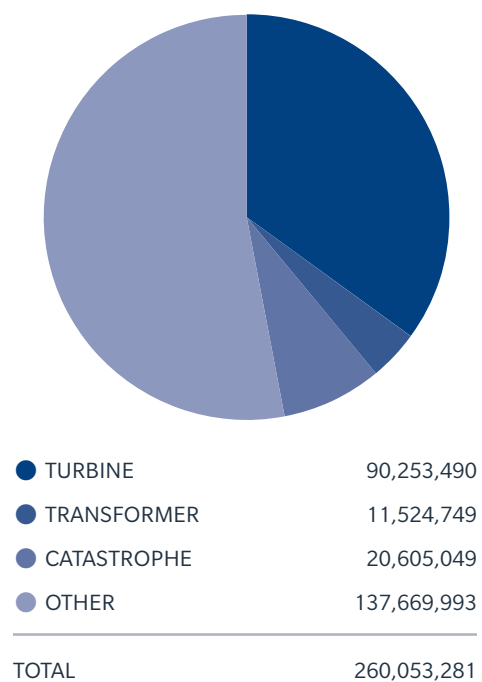
NUMBER OF EVENTS PER EQUIPMENT TYPE



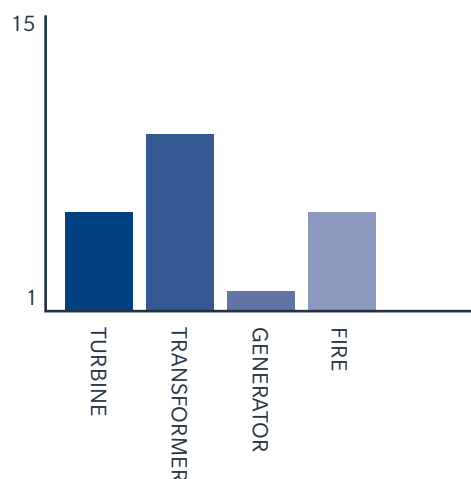
| LOSS TYPE                   | UNIT FUEL TYPE | DATE OF LOSS | US\$ NET AMOUNT TO INSURERS |
|-----------------------------|----------------|--------------|-----------------------------|
| Transformer                 | —              | Jan 2010     | 2,748,933                   |
| Fire                        | Coal           | Feb 2010     | 11,000,000                  |
| Catastrophe                 | —              | Feb 2010     | 81,000,000                  |
| Other                       | Diesel         | Mar 2010     | 2,500,000                   |
| Transmission & Distribution | —              | Mar 2010     | 60,108,076                  |
| Catastrophe                 | Gas            | Apr 2010     | 4,500,000                   |
| Turbine                     | Wind           | Apr 2010     | 2,000,000                   |
| Other                       | Diesel         | May 2010     | 9,000,000                   |
| Transformer                 | —              | Jun 2010     | 3,250,000                   |
| Turbine                     | Gas            | Aug 2010     | 12,250,000                  |
| Turbine                     | Gas            | Sep 2010     | 3,250,000                   |
| Catastrophe                 | —              | Aug 2010     | 31,429,000                  |
| Turbine                     | Gas            | Jul 2010     | 2,888,020                   |
| Fire                        | —              | Sep 2010     | 2,386,839                   |
| Turbine                     | Gas            | Sep 2010     | 12,750,000                  |
| Other                       | —              | —            | 8,132,751                   |
| Generator                   | Thermal        | Nov 2010     | 2,930,714                   |
| Generator                   | Coal           | Dec 2010     | 30,164,400                  |
| Other                       | Hydro          | Aug 2010     | 105,000,000                 |
| Turbine                     | Nuclear        | Sep 2010     | 30,070,163                  |
| Catastrophe                 | Coal           | Dec 2010     | 26,932,500                  |
| Catastrophe                 | Hydro          | Dec 2010     | 4,309,200                   |
| Generator                   | Thermal        | Nov 2010     | 2,492,265                   |
| TOTAL                       |                |              | 453,563,867                 |

2011

## NET CLAIMS LOSSES BY EQUIPMENT TYPE (US\$)



## NUMBER OF EVENTS PER EQUIPMENT TYPE



| LOSS TYPE   | UNIT FUEL TYPE | DATE OF LOSS | US\$ NET AMOUNT TO INSURERS |
|-------------|----------------|--------------|-----------------------------|
| Transformer | Coal           | Jan 2011     | 12,500,000                  |
| Transformer | Electric       | Jan 2011     | 10,889,993                  |
| Catastrophe | Hydro          | Feb 2011     | 20,605,049                  |
| Other       | Coal           | Mar 2011     | 3,700,000                   |
| Transformer | Gas            | Feb 2011     | 5,624,749                   |
| Turbine     | Gas            | May 2011     | 3,500,000                   |
| Other       | Gas            | May 2011     | 8,300,000                   |
| Other       | Diesel         | May 2010     | 9,000,000                   |
| Turbine     | Gas            | Apr 2011     | 9,000,000                   |
| Turbine     | Gas            | Jul 2011     | 5,500,000                   |
| Turbine     | Gas            | Jul 2011     | 3,000,000                   |
| Turbine     | Gas            | Aug 2011     | 26,329,958                  |
| Other       | Gas            | Jun 2011     | 3,400,000                   |
| Other       | Coal           | Apr 2011     | 50,000,000                  |
| Other       | Coal           | May 2011     | 44,880,000                  |
| Turbine     | Gas            | Aug 2011     | 6,500,000                   |
| Turbine     | Gas            | May 2011     | 24,150,000                  |
| Transformer | Electric       | May 2011     | 3,000,000                   |
| Transformer | Electric       | Aug 2011     | 2,900,000                   |
| Turbine     | Gas            | Sep 2011     | 10,123,532                  |
| Turbine     | Gas            | Oct 2011     | 2,150,000                   |
| Other       | Gas            | Oct 2011     | 4,000,000                   |
| TOTAL       |                |              | 260,053,281                 |

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