



Enterprise Risk Management

IPR BRIEFING

Property Insurance

June 21, 2010

Benefits of Property Insurance

- Insurance provides a risk mitigation method for addressing large potential losses that are not currently being managed by BPA.
- Purchasing property insurance is a common electric utility industry practice that is well understood and used by BPA's customers.
- Purchasing property insurance is consistent with BPA's objective to manage risks in accordance with sound business principles.
- Following a loss, insurance pays for the replacement cost of assets thereby reducing BPA cash requirements or the need to use long-term borrowing authority that must be repaid.
- Rate stability is enhanced by minimizing the financial blow from a major property loss.
- Insurance provides a relatively quick source of funds following a catastrophic event (typically partial payments within a few weeks). Federal financial aid may not be readily available and could require repayment.
- Insurance companies provide loss control services including inspections of facilities and recommendations for reducing the frequency and severity of losses.



Property Insurance Overview

Sample Property Insurance Policy with Indicative Pricing

This insurance policy would cover replacement value of FCRPS assets and includes terrorism coverage. Limits were selected to align with estimates of the magnitude of BPA's exposure to potential damage to FCRPS assets.

Earthquake:	\$250 million each occurrence/annual aggregate
Flood:	\$500 million each occurrence/annual aggregate
All other perils:	\$500 million each occurrence
Deductible:	\$10 million, except 2% each location damaged for Earthquake (\$5 million minimum)

Estimated Annual Net Premium: \$13-16 million



Property Insurance Overview

- **What assets would be covered by a property insurance policy?**
 - ▶ A property insurance policy would cover the cost of repairing or replacing damage to major FCRPS assets. Insurable FCRPS assets have a total replacement value of over \$50 billion.
 - ▶ A BPA insurance policy would cover powerhouses and associated electrical generating equipment, transmission substations, Ross complex, Dittmer, Celilo converter station, office buildings, computers, and other contents.
 - ▶ Only the powerhouses and electrical generating equipment would be covered at the hydro projects because BPA has a direct obligation to repair or replace these assets when damaged and therefore has an “insurable interest.” Dam spillways, locks, etc. would not be covered.
 - ▶ Transmission lines and towers would not be covered. Insurance is not available.



Property Insurance Overview

What types of perils and events would be covered?

Major perils covered would include mechanical breakdown, fire, earthquake, flooding, terrorism explosion, lightning, wind and ice storm, hail, riot, vandalism, aircraft, volcanic action.

Examples of BPA large property loss exposures

- Large substation fire/explosion: \$50 million to \$100 million
- Large fire/explosion at Celilo Converter Station: over \$100 million
- Fire at a large generation plant such as Grand Coulee: over \$300 million
- Ross warehouse fire: over \$20 million
- Large fire in spare transformers at Ross: over \$100 million
- Terrorism (fire, explosion, intentional mechanical failure): over \$500 million
- Volcano eruption: over \$500 million
- Worst case earthquake loss: \$3.9 billion
- More probable earthquake loss: \$150 to \$250 million
- Catastrophic flood: over \$500 million
- Transformer bank fire: \$15 million to \$35 million
- Large control or server center fire: \$25 million to over \$100 million
- Mechanical breakdown at large generation station: over \$200 million



Historical Examples of Major Utility Property Losses

- BPA/ US Army Corps of Engineers – 2007 - Detroit Dam fire in generation unit – Approx. \$8 million damage to generator and powerhouse.
- BPA/ Energy Northwest – 2008 - Wind damage to Columbia Generating Station. Approx. \$17 million damage to siding on the reactor building.
- Russian Hydropower accident – 2009 - Three large 640 MW turbines destroyed, major destruction of powerhouse, estimate over \$600 million in damage.
- Cowlitz Co. PUD – 2002 - Swift No. 2 Hydroelectric project failure, 70 MW Powerhouse destroyed.
- PacifiCorp - 2000 - Hunter Unit #1 massive generator failure.
- Portland General Electric – 2009 - Multiple transformer explosions and major substation fire, Beaverton OR.
- Southern California Edison – 2000 - Mira Loma substation explosion and multiple transformer fire.
- Ameren – 2005 - Taum Sauk pump storage dam failure. Extensive environmental and property damage. Ameren fined \$15 million by FERC.
- TVA – 2008 - Coal ash retention pond failure. Major environmental and property damage. Numerous lawsuits. Estimate \$1.2 billion in recovery costs.
- Sylmar Earthquake – 1971 and 1994 - Major damage to the substation at the southern end of the DC intertie.



Property Insurance Overview

What are other utilities doing?

- BPA asked Marsh how many electric utilities in the Northwest purchase property insurance. They responded that with very few exceptions, to the best of their knowledge all Northwest utilities purchase property insurance and that this is basically true for utilities across the US.
- The structures of the utility property insurance programs are similar to what BPA has proposed, with the amounts of coverage being proportional to the value of assets and exposure to perils.



Sample List of Utilities that Purchase Property Insurance

- Following is a list of a cross section of BPA customers and a few other large utilities across the US that purchase property insurance. Some of the smaller utilities group together for the purpose of purchasing property insurance in order to gain better pricing.
- American Electric Power Company, Inc., Arizona Public Service Co., Avista Corp., Benton CO Public Utility District #1, Clallam CO Public Utility District #1, Clark County Public Utility District #1, Constellation Energy Group, Inc., Cowlitz County Public Utility District #1, Eugene Water & Electric Board, Grant CO Public Utility District #2, Grays Harbor CO Public Utility District #1, Horizon Wind Energy LLC, Iberdrola Renovables S.A., Idaho Power Co, Kitsap County Public Utility District, Klamath Falls Cogeneration Project, Klickitat County Public Utility District, Lewis County Public Utility District #1, Los Angeles Department of Water & Power, Mason County Public Utility District #3, Middle Fork Irrigation District, Noanet, Okanogan County Public Utility District #1, Oregon Trail Electric Consumers Co-Op, Pacific County Public Utility District, Pacific Northwest Generating Cooperative (PNGC), PacifiCorp, Pend Oreille County Public Utility District #1, PG&E Corp. (Holding Co.), Portland General Electric Co., PPL Energy Supply LLC, Public Service Company of Colorado, Public Service Company of New Mexico, Puget Energy, Inc. (Holding Co.), Sacramento Municipal Utility District, San Diego Gas & Electric Co., Sempra Energy, Shell Energy North America, Sierra Pacific Power Co., Skagit County Public Utility District, Skamania County Public Utility District, Snohomish County Public Utility District #1, Southern California Edison Co., Springfield Utility Board - Electric Utility, Stevens County Public Utility District, Suez SA, Thurston County Public Utility District, TransAlta Corp., TransCanada Corp, Utah Associated Municipal Power Systems, Wahkiakum County Public Utility District, Whatcom County Public Utility District, Southern Companies, TVA, MidAmerican Energy, Duke Energy, Florida Power & Light, Entergy, DTE Corp, Commonwealth Edison, Con Edison, Nevada Power, TXU, Alliant, XCEL Energy, White Creek Wind Project.

Alternative Property Insurance Policy Structures

- Following are some examples of alternative policy structures and pricing options.
- Assuming same policy limits as presented on slide #3 except:
 - A. Increase deductible from \$10 to \$20 million
Reduce premium \$1 million
 - B. Reduce earthquake limit from \$250 to \$100 million
Reduce premium \$1 million
 - C. Increase “all other perils” limit from \$500 million to \$1 billion
Increase premium \$500,000
 - D. Co-Pay option, insurance policy would pay 80% of the losses in excess of the deductible up to the policy limits and BPA would pay 20%.
Reduce premium \$2.5 million

