

Worldwide Study Of The Protective Relay Marketplace In Electric Utilities: 2012-2014

Volume 3 – Market Forecast &
Assessment

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SAMPLE

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This report, the third volume of a four-volume series, is based on a November 2011-March 2012 survey-based study of key worldwide electric utility relay engineers and managers of systems protection and control. Officials from 28 countries participated in the study. Supplementary studies were conducted regarding the investment outlook for protection and control activities in January of 2010 and 2011. Also in 2011, the Newton-Evans report titled “The Worldwide Smart Grid Market in 2011: A Reality Check and Five Year Outlook Through 2015” featured extensive coverage of the global market and outlook for protection and control spending on a summary level.

A total of 113 utility protection managers and senior staff engineers from the global community of P&C professionals discussed their latest usage patterns, plans and investment outlook for protection and control topics.

Volume III, the market assessment and outlook for protective relays, provides information on generator protection, transmission line, distribution feeder, transformer, and motor protection relays.

Descriptions of the domestic and international protective relay markets and the shares of many relay manufacturers are provided, accompanied by tables and charts.

The estimates and forecasts contained in this report are based on four sources of information:

- 1) In-depth utility surveys and interviews of 113 utility protection and control officials located in 28 countries.
- 2) Manufacturer surveys of key protective relay suppliers and financial information obtained about and/or from suppliers.
- 3) Excerpts from these very recent and related Newton-Evans Research publications:
 - Global Study of Data Communications Usage Patterns and Plans in the Electric Power Industry
 - The Worldwide Smart Grid Market in 2011: A Reality Check and Five Year Outlook Through 2015
 - The World Market for Substation Automation and Integration Programs in Electric Utilities: 2011-2013

- Global CAPEX and O&M Expenditure Outlook for Electric Power T&D Investments: 2011-2012 Funding Outlook for Smart Grid Development Based on First Quarter 2011 Survey Results
- 4) Economic and market outlook information from a variety of public sector and private sector sources, including World Bank, International Monetary Fund, UNDB and other economic outlook services.

Other volumes in this 2012-2014 research series on protective relays include:

Volume I: North American Utilities

Volume II: International Utilities

Volume IV: Supplier Profiles – Relay Manufacturers

Summary of the North American Study

American and Canadian utilities participating in the 2012 survey represented approximately 29% of the estimated total of North American (U.S. and Canada) customers, and about the same percentage of North American electric utility revenues. The sample utilities account for approximately 2,600 transmission substations out of a total of about 14,500 (or about [SAMPLE] %) and for some 9,100 distribution substations out of a total of approximately 45,000 American and Canadian distribution substations ([SAMPLE] %) operated by more than 3,000 electric power delivery utilities.

The new 2012 survey indicates that as many as [SAMPLE] protective relay units will be purchased by this sample group of utilities over the 2012-2014 periods. Using the 5x-6x multipliers from the sample to the “universe” of North American electric utilities, this suggests a market for [SAMPLE] to [SAMPLE] new units.

The participating North American utilities in the earlier 2009 study had relay purchase plans at that time that indicated as many as [SAMPLE] new protective relays would be purchased over the 2009-2011 periods. This number was higher than the plans outlined for purchase of [SAMPLE] relays as stated by respondents to the 2006-2008 study.

Once again in the 2012 study findings, it is clear that [SAMPLE] will dominate purchases of protective relays - at somewhat lower rates ([SAMPLE] % of utility industry totals) than one would expect, given that this group dominates the power supply industry generally ([SAMPLE] % of total utility customers, revenues, production capacity, transmission lines, etc.)

Summary of the International Study

The international utilities participating in this 2012 survey represent countries with approximately 2.5 billion residents, nearly 40% of the world total. In several instances, the respondent utilities represent all electricity end-users within their countries for at least some aspect of power generation, transmission or delivery. For example, EGAT (Thailand), Fingrid (Finland), EDP (Portugal), AES Eletropaulo (Brazil), Tennet (The Netherlands), and Israel Electric Company are representative of respondents from such national power generation, transmission and/or delivery organizations.

These participating international utilities have relay purchase plans that indicate as many as [SAMPLE] relays will be purchased over the 2012-2014 timeframe. Using the 10x-12x multipliers (to account for missing large utilities in several countries) suggests a potential market for as many as [SAMPLE] units outside of North American demand, without factoring in the thousands of motor control units needed by industrial firms globally.

The number of international utility protection and control engineers and engineering managers participating in this Newton-Evans protective relay study series is about the same as had participated in the four earlier studies conducted since the year 2000.

Generator Protection Sample

The 2012 North American survey sample base of 80 utilities included those utilities (IOUs and G&T cooperatives) running many of the plants and operable generating units within the country still owned and operated by regulated utilities. Keeping in mind that many power generation units have been privatized and spun off into deregulated business operations or sold off to merchant power plant owners, all of these plants continue to use and purchase protective relays for their generating equipment. Of the 1,063 gigawatts of commercial electricity production capacity at some 15,228 electric power generation facilities in the United States, “non-utility generators” (NUGs) owned more than 400 GW by year-end 2010. These operators also now produce nearly 40% of all electricity generated in the United States. By the beginning of 2011, there were about 655 GW of utility operated generation capacity in operation. The survey base for this study represents more than 200 GW, or about 30%, of the utility totals and 28% of the overall total of commercial (utility plus merchant) generating capacity in the United States.

In the previous 2009 study, The North American survey sample base of nearly 100 utilities included those utilities running many of the plants and operable generating units within the country still owned and operated by regulated utilities. Of the 1,067 gigawatts of commercial electricity production capacity at some 16,806 electric power generation facilities in the United States, “non-utility generators” (NUGs) owned more than 500 GW by 2008. These operators also had produced more than one-third of all electricity generated in the United States. By mid- year 2009, there was about 650 GW of utility operated generation capacity. The survey base for the 2009 study represented more than 200 GW, or about 30%, of the utility totals and 22% of the overall total of commercial (utility plus merchant) generating capacity in the United States.

(Accompanying North American Market Share Charts)

