

# Worldwide Study Of The Protective Relay Marketplace In Electric Utilities: 2009-2011

## VOLUME I : NORTH AMERICAN MARKET

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## **Section 1: Introduction**

### **Introduction to the Report**

The number of North American utility protection and control engineers and engineering managers participating in the Newton-Evans protective relay study series has moderated this year with 99 participating utilities. However, several respondents represent multiple operating companies within their holding company, effectively providing the viewpoints from more than 115 operating companies. Earlier study participant totals ranged from a total of 64 utilities in 1999, to 79 utilities in the 2002 study, to 102 utilities in the 2004 study and 112 utilities in the 2006 study.

American and Canadian utilities participating in the 2009 survey represent approximately 25% 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 3800 transmission substations out of a total of about 16,000 (or about 24%) and for some 10,250 distribution substations out of a total of approximately 48,500 American and Canadian distribution substations (21%) operated by more than 3,000 electric power delivery utilities.

North American utilities that had participated in the earlier 2006 study of protective relay usage and trends accounted for more than 30% of all North American electricity customers and industry revenues, far exceeding the participation levels in earlier studies conducted in 1996, 1999 and 2002. American and Canadian utilities participating in the earlier 2002 survey represented approximately 17% of the estimated total of North American customers, and 15.6% of North American-wide electric utility revenues.

The participating utilities in this 2009 study have relay purchase plans that indicate as many as [SAMPLE] new protective relays over the 2009, 2010 and 2011 periods. This number is higher than the plans outlined for purchase of [SAMPLE] relays as stated by respondents to the 2006-2008 study. Once again in the 2009 study findings, it is clear that investor-owned utilities will dominate purchases of protective relays - at somewhat lower rates [SAMPLE] than one would expect, given that this group dominates the power supply industry generally (73-77% of total utility customers, revenues, production capacity, transmission lines, etc.)

The Executive Summary report to this series (Volume Four) will provide readers with detailed market information for the North American region as well as an international overview. Newton-Evans Research Company estimates from its earlier protective relay market studies indicate that the North American relay market stood at about [SAMPLE], and even with decreasing prices, increasing functionality, and stiff price-based competition eroding profits in some selling situations, the domestic market

by 1999 had remained fairly stable because of increased digital relaying applications, and the integration of relay devices within other larger devices and sub-systems.

Between 1999 and 2002, a few events had occurred to reshape the demand curve. First to contribute to this was the continuing pervasiveness of digital relays for new unit purchase consideration. Nearly 90% of all new relay unit purchases at that time were for digital units. The second event concerned ongoing utility restructuring in spite of a slowdown in deregulation activities. Third was the need for increased grid operational and informational security.

However, by mid-2004, there continued to be a viable opportunity for established suppliers of electromechanical relay products. For domestic North American producers such as GE, ABB and a few other smaller suppliers, there was still a viable \$30-\$40 million market niche for electromechanical relays in the North American market. Worldwide, with foreign producers based in several countries around the world included, the market for electromechanical relays continued to exceed \$100 million in commercial shipment values.

In 2006, the electro-mechanical segment of the market continued to be “flat” at about \$35-40 million for North America, and about \$100 million worldwide. In North America, ABB and GE continue into 2009 to share the bulk of this market segment in North America.

Keep in mind that direct purchases of protective relays by the electric power utility industry for protective relaying products forms only about 60% of the total protective relay market, with additional unit shipments going to OEMs for integration into panel—based systems and to independent power producers (IPPs) - including co-generation facilities and merchant power plants - as well as to industrial and commercial power generators, and commercial and industrial end-users of electricity.

Throughout this report, information will be presented in tabular and graphic forms. Tables include summary level overviews, as well as detailed tables to better assess the findings, based on 1) type of utility and 2) ranges of number of customers. Where appropriate accompanying graphics are provided for the reader.

## Section 2: Narrative and Charts

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