Newton-Evans Research Company's

MARKET TRENDS DIGEST

for the Computer, Communications, and Controls Industries

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Strong Increases in Substation Related Automation and Integration Program Spending Reported by Major North American Utilities

Cyber Security Initiatives and Infrastructure Upgrading to Improve Reliability Seen as Keys to Increased Spending.

In July 2005, Newton-Evans Research Company released preliminary findings from its mid-year study of North American utility substation officials. At this point in the study, with tabulations of surveys from North American utilities accounting for nearly one-third of all utility owned transmission and distribution substations, it appears that more than $140 million is being spent this year among this group. In turn, this suggests that more than $250 million is being spent by the entire community of more than 3000 American electric power utilities this year for substation-related integration and automation programs.

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Many of the large utilities participating in this year's study continue to buy from what they believe to be "best in class" suppliers, whether these are global giants, or smaller market specialists. Others are buying individual components, equipment and products and providing their own substation software development and integration rather than outsourcing this effort to construction and engineering firms.

Among other highlights in the North American study are the following:

Eighty-four percent of the respondents have substation automation and integration programs underway in mid-2005.

DNP remains as the most widely used protocol within the substation, with strong likelihood that users will migrate from a serial to a LAN-based DNP version over the next two years. Modbus was second in popularity, and Modbus Plus came in third.

The protocol used from the substation to the control center is very likely to be DNP (either LAN or serial version) which accounted for at least some of the data traffic at 70% of the surveyed utilities.

The utilities participating in the survey account for more than 21,000 of the 70,000 utility-operated substations in North America. Plans call for retrofitting more than 3,000 of these units, and for construction of more than 430 new substations over the 2005-2007 period.

Utilities are looking for outside service firms to provide training services (72%), distribution field device configuration support (52%), and engineering drawing support (46%).

A total of 21 question groups were included in the survey instrument, accounting for more than 75 individual topic questions.

Additional topics being covered in the series of substation studies include cyber and physical security practices, voltage ranges used to power substation automation equipment, external systems linkages to the substation, preferred equipment suppliers, and an assessment of where North America's substations are positioned along a five-phase path to complete automation.

A parallel study is currently underway with the international electric power delivery community of utilities.

The remaining two volumes in this four volume series will include supplier profiles (volume 3) and market forecast and assessment (volume 4). Additional information on the four volume study" is available from Newton-Evans Research Company at 1-410-465-7316 or visit our website www.newton-evans.com.

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IEEE PES ANNOUNCES TECHNICAL PROGRAM FOR THE 2005 TRANSMISSION AND DISTRIBUTION CONFERENCE & EXPOSITION OCTOBER 9-14, 2005, IN NEW ORLEANS

This year's IEEE PES Transmission and Distribution Conference & Exposition scheduled for October 9-14, 2005 in New Orleans, Louisiana, will offer attendees a comprehensive technical and business program serving the power-delivery marketplace.

This year's program consists of more than 240 technical poster sessions, nearly 30 focused technical panel sessions, four super sessions, instructional tutorial sessions, special interest sessions, an educational track, a special short course, a collegiate program and an exhibition that features hundreds of manufacturers who will display the most up-to-date technology and equipment available in the marketplace today. The event also provides technical and companion tours designed to enrich the conference and exposition experience.

The event begins with a conference reception on Sunday evening, October 9, at the New Orleans Aquarium. On Monday, the opening session is scheduled for 8 a.m. at the Ernest N. Morial

Convention Center. Immediately following the opening session, the exhibition floor opens at 10 a.m. Poster and panel sessions are scheduled continuously throughout the event.

Panel Sessions
Highlighting the panel session program are: Project Evaluation and Selection; Rethinking T&D Architecture for DER Environment; Stray Voltage -- Causes, Impacts and Mitigation; Insulator Selection for Icing Performance; DER Impacts on Distribution Systems Analysis; Market Simulators for the Open Electricity Market; PQ Standards Roadmap with IEEE/IEC Coordination; Wide Area Protection and Control; Development of Guidelines for Distribution Voltage Quality; Outsourcing T&D Infrastructure Projects. A complete list of the technical panels is available at the event website at www.ieeet-d.org.

The poster session schedule features technical subjects that are important to the power delivery professional. Included in the program are sessions focused on the following:

Modeling and Computation; Wind and Distributed Generation; Dynamics and Control; Distribution Apparatus; Lightning, Insulators, and Insulated Conductors; Power Electronics; DC and FACTS; Power Quality and Reliability, Protection, Planning and Implementation; Substations and Grounding and Switchgear

Super Sessions
The four super sessions are focused on Transmission Investment, Wind Energy, Reactive Power and Cyber Security. The four sessions will take place on Monday, Tuesday and Wednesday, October 10, 11 and 12. Each session will explore each one of these topics in-depth.

Tutorials scheduled for Sunday and Tuesday feature sessions on: What Can Be Done About Reliability (Sunday, October 9, 9 a.m.-5 p.m.), Grounding Safety: An Examination of Standard 80 (Sunday, October 9, 9 a.m.-5 p.m.) and a Special Short Course focusing on Power System Basics for Non-Engineering Professionals (Tuesday, October 11, 9 a.m.-5 p.m.).

This year's educational track is scheduled for three days, and focuses on Fundamentals of Electric Power Systems for Engineers. The purpose of the program is to provide refresher materials for attendees. The educational program is scheduled Monday, October 10, Tuesday, October 11, and concludes on Wednesday, October 12.

Special Interest Sessions
The conference is also offering Special Interest Sessions that are focused on in-depth issues that are both timely and have a high level of interest to attendees. The special interest sessions include: Increasing Transmission Capacity Using Real-Time; Cascading Failures and Blackouts; The Impact of Rising Material Costs on the Power Delivery Industry; Broadband Over Power Lines and Engineering Ethics for Today's Power Engineer.

The event also offers students seeking to join the power engineering profession a special collegiate session where they can interact with power-delivery professionals from around the world.

Special meetings being conducted during the conference include: an Insulated Conductor Meeting scheduled for October 12-14; a T&D Committee Meeting on October 13-14; and a special joint meeting of CIGRE and the IEEE PES focusing on Congestion Management in a Market Environment.

Geographic Schematic Distribution Feeder Map Displays Implemented by More than One-Half of North American Respondents

In June 2005, Newton-Evans completed volume 1 of its report series entitled “Worldwide Market Survey of SCADA, Energy Management Systems and Distribution Management Systems in Electric Utilities: 2005-2007.” This North American market report has been prepared based on an update to Newton-Evans Research Company's 2003- 2005 report entitled *World Market Survey of SCADA and Energy Management Systems in Electrical Utilities: 2003-2005.*

A total of 191 North American electrical utilities are represented in the final study. This number included the following: 37 U.S. investor-owned utilities, 46 municipal utilities, 12 other public power agencies, 71 U.S. rural electric cooperatives, 15 Canadian utilities, and 10 anonymous responses.

One of the questions concerned current use and future plans for use of various DMS and OMS functions and applications.

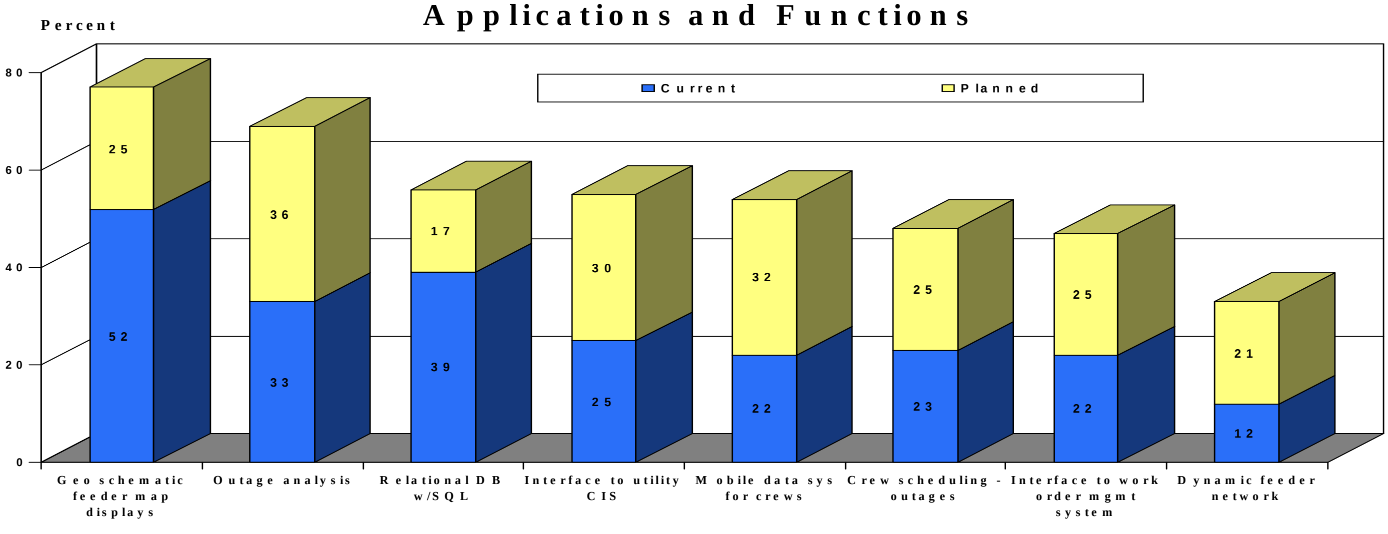
Distribution Management Applications and Functions:

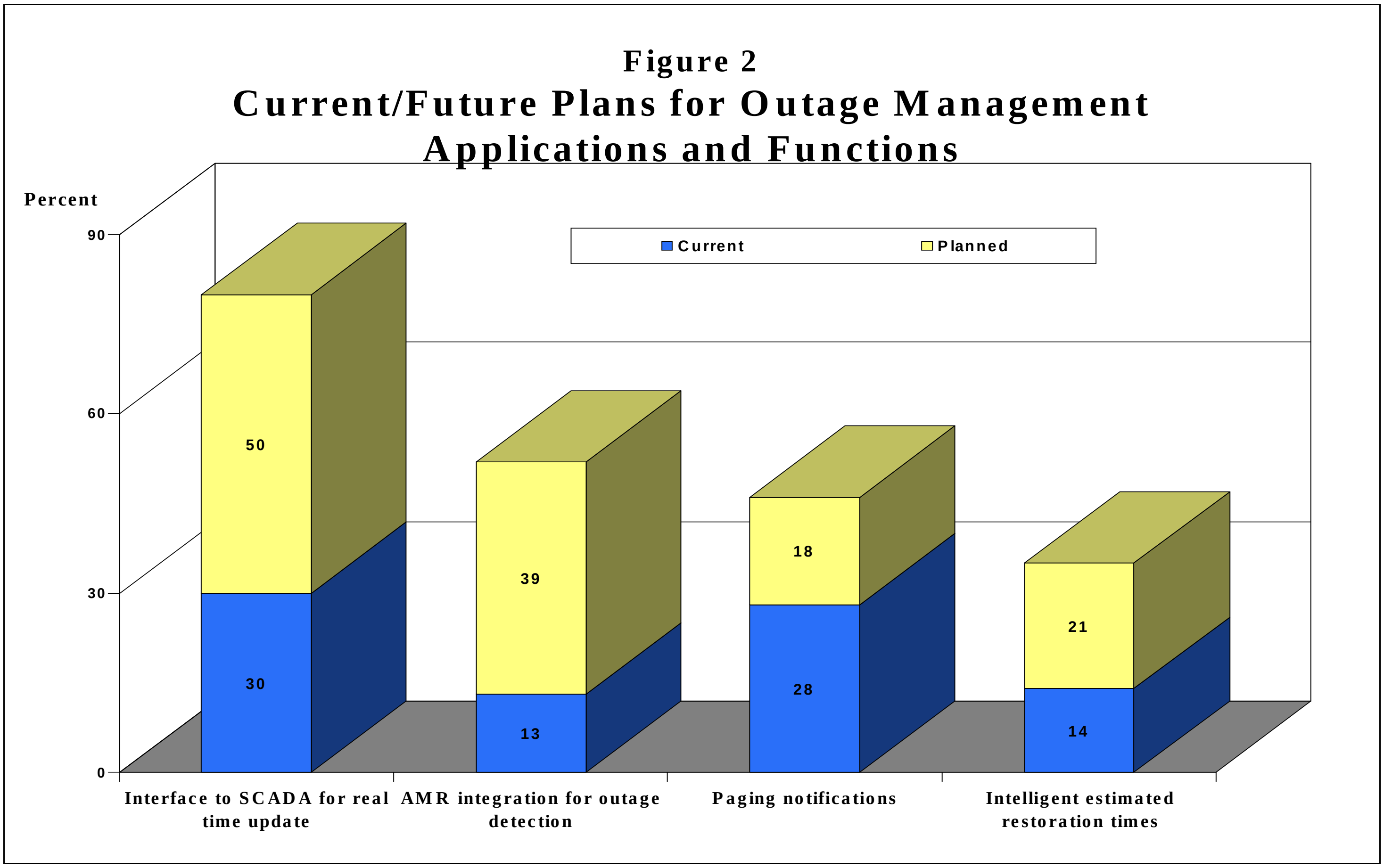
On a summary basis, only three of the listed distribution management (DMS) applications had been implemented by more than one-third of the total group of 121 utilities. These included: (1) geographic schematic distribution feeder map displays, (2) outage analysis and distribution management applications, and (3) relational databases with SQL access. See Figure 1.

Plans were fairly firm for adding mobile data systems for field crews, outage analysis software and interfaces to the utility's CIS. About one quarter were planning to add geographic displays, interfaces to work order management, and crew scheduling applications by 2007.

Investor owned utilities were likely to already be using geographic schematics of distribution feeder map displays. About one-half were running outage analysis or relational databases with SQL access. Plans among IOUs were led by interest in emergency restoration suggestions for switching, for adding interfaces to work order management systems, and mobile data systems for field crews.

Figure 1
Current/Future Plans for DMS Applications and Functions





Current and Future Plans For Using Outage Management System Applications and Functions:

On a summary basis, 30% of the 112 respondents to this question indicated that they currently have an interface to SCADA for real-time updates, while about 28% have implemented paging notifications.

Plans centered around development of such an interface for real-time updates (50%), while 40% plan to add AMR integration for outage detection.

More than 40 percent of the IOU respondents were already interfacing to SCADA with the OMS to provide real-time updates, and 42% were using paging notifications. Plans centered on developing the interface between SCADA and OMS for utilities that did not yet have this capability implemented.

Nearly two-thirds of municipal respondents had strong plans to develop and interface to SCADA.

Cooperatives were very interested in adding AMR integration for outage detection, with 56% citing such plans.

Canadian utilities were also very interested in adding AMR integration (43%).

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An Overview of the Large Power Transformer Market

Newton-Evans Research Company has periodically been commissioned to study various aspects of the transformer market.

In the 1990s, several studies focused on the market for transformer services and on-line monitoring instruments and distribution transformer repair and refurbishment.

Over the last several years, clients have had Newton-Evans assess the North American and global market size for different MVA ranges of power transformers.

Here are some of the findings and observations we have made in recent studies of the large power transformer market.

o For transformer size ranges of 2MVA and higher, the global market exceeds $2billion (US). This translates into a global annual demand of more than 8,000 units, with most units having <MVA values of 100 MVA or less.

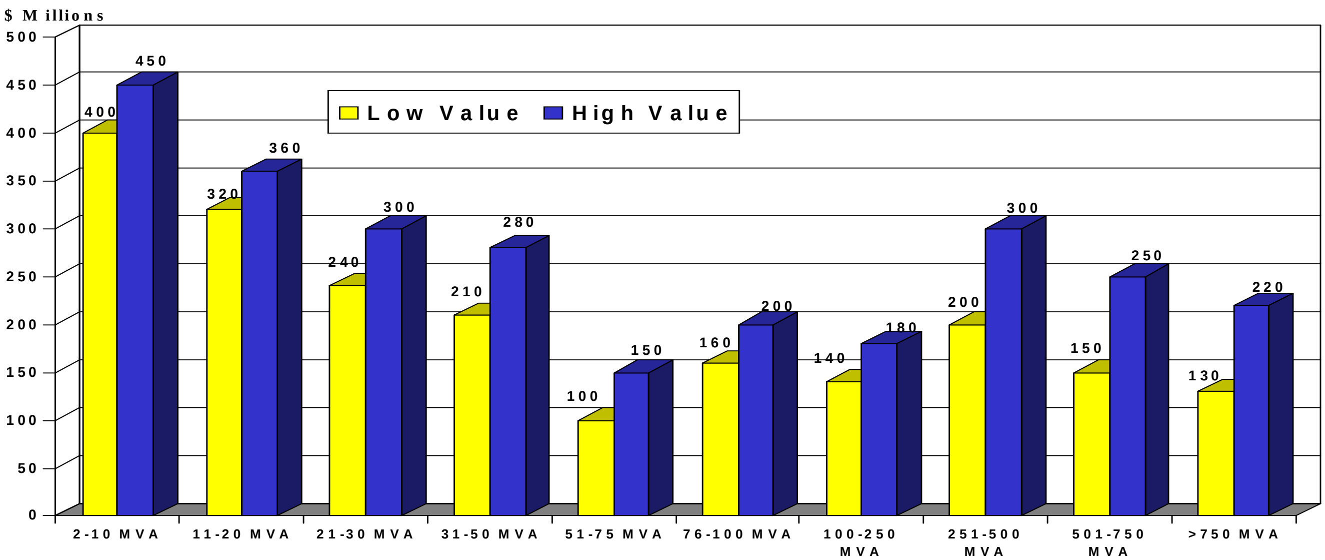
o For the very large power transformers unit segment, at least $600 million is spent annually around the world for transformers and 100 MVA and high ratings.

o There are at least 30 companies actively manufacturing very large power transformers. As the MVA range increases to >500 MVA, the number of suppliers drops off rapidly.

o At the very high end of the market, ABB is a dominant player with market share estimates ranging from 25% - 35%. However, other suppliers such as Siemens, Areva and VA Tech are also active global market participants for these high-end multi-million dollar transformers. With the Siemens acquisition of VA Tech, Newton-Evans believes the transformer shipments of these combined operations will form a very strong and competitive number two player, not far behind ABB.

See Figure 3 for a depiction of Newton-Evans' estimates of 2004 range values of large power transformer shipments in each of ten MVA ranges.

Figure 3
World Market for Medium and Large Power Transformers: Range Estimates of 2004 Shipments (in millions of dollars)



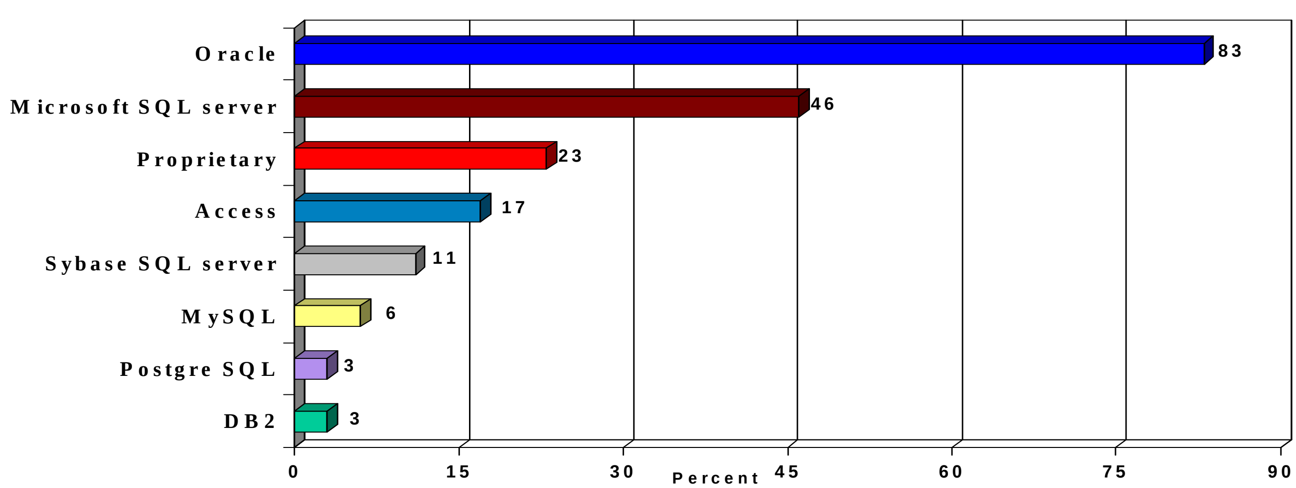
Oracle Received Top Mentions as Acceptable Relational Database Management System by International Electric Utilities

As mentioned previously on page 4, Newton-Evans is in the process of publishing its four volume series of reports on the world market study of SCADA, Energy Management Systems, and Distribution Management Systems in electric utilities for 2005-2007. At this point, input from utilities in 34 countries has been received for volume 2, International Market Survey and Analysis. The countries participating thus far include: Australia, Belgium, Brazil, Chile, Colombia, Costa Rica, Czech Republic, Ecuador, El Salvador, Hong Kong, Iceland, India, Ireland, Malaysia, Maldives, Mexico, Netherlands, New Zealand, Northern Ireland, Philippines, Portugal, Qatar, South Africa, Spain, Switzerland, Taiwan, Thailand, Uganda, UK, Uruguay, Vietnam, Yugoslavia, Zambia, and Zimbabwe.

Two topics of interest to many of these international electric utility respondents include the use of acceptable relational database management systems and acceptable graphical user interface technology.

The international respondents were provided with a list of nine relational database management systems (RDBMS), and they were asked regarding their EMS, SCADA and DMS systems, to check all acceptable RDBMS. Eighty-three percent noted that the Oracle RDBMS was a satisfactory solution. This was followed by 46% citing Microsoft SQL server, 23% indicating proprietary, and 17% noting Access. See Figure 4. Space was provided for respondents to write-in other RDMS. Avanti, Informix, Versant, and PI (OSI) were products written in by survey participants

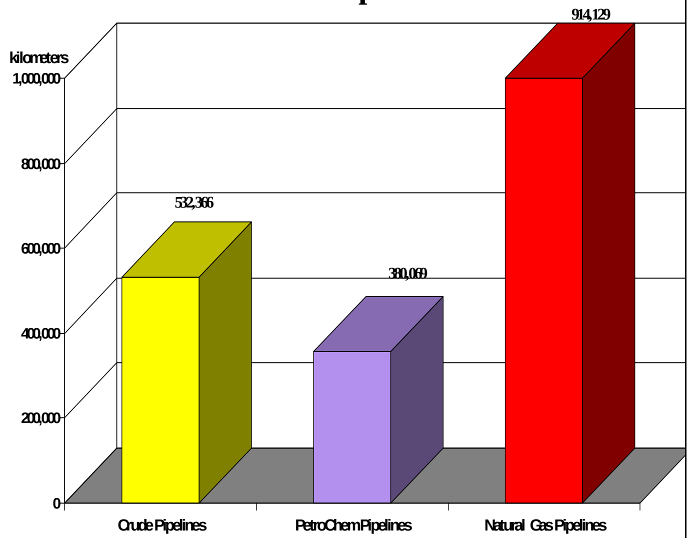
Figure 4
Acceptable Relational Database Management Systems
International Utility Respondents



As with RDBMS, utility participants were provided with a list of GUI technology, and they were asked to indicate all acceptable technologies. Over three-fourths of the respondents to this question noted that X-Windows was an acceptable GUI technology, followed by three-fourths noting Windows, 49% indicated the Web as acceptable, and 26% checked Java. Again, space was provided for survey participants to write-in other GUI technology. FIX, Dynavis2, W#S500, and Rport FG were mentioned.

2005 Oil/Gas Pipeline Study Underway

Figure 5
World Estimates – Pipeline Kilometers



(Newton-Evans compilation of data from CIA World Fact Book 2005)

Figure 6
Annual Global Spending Estimates and Forecasts for Pipeline SCADA Systems and RTU's/PLC's

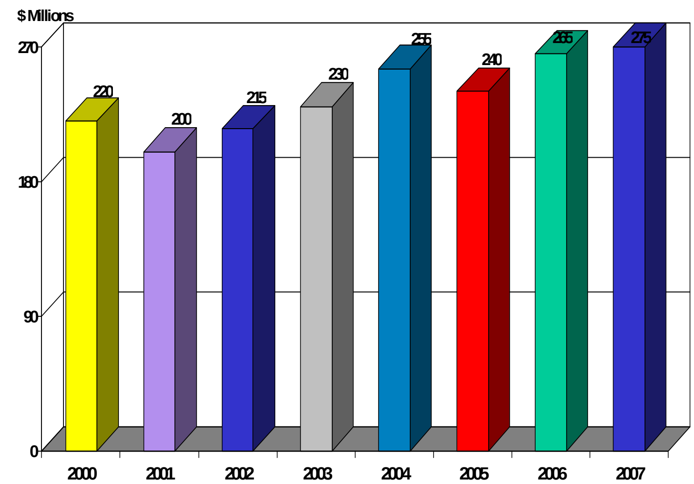


Figure 7
Annual Spending Estimates and Forecasts for Pipeline RTU's/PLC's

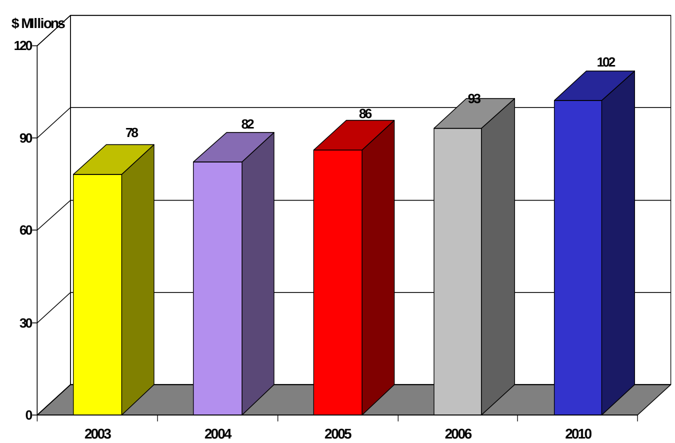
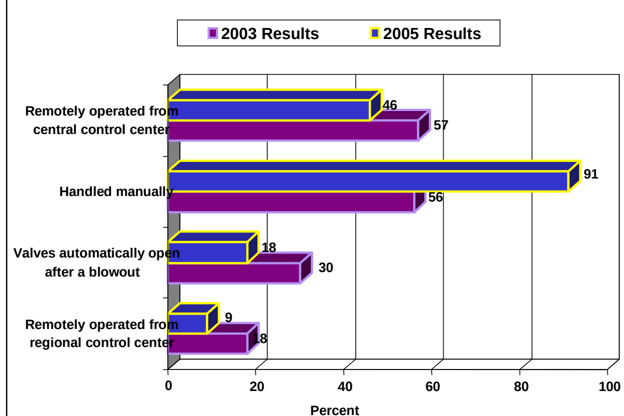


Figure 8
Use of Automatic Blocking Valves to Stop Flow in the Event of Major Pipeline Leak/Rupture



Preliminary findings from the study were presented at the 2005 Entelec Conference in New Orleans. Work on the North American market during this summer has taken a two-part focus. First is the surveying work being done with natural gas distribution utilities. Second is the effort to study SCADA use among the major gas and liquid transmission pipelines.

This autumn, the study will be expanded to survey the international pipeline operations community. It is likely that the findings from the global study will be presented at the 2006 Entelec Conference, planned for Houston, Texas.

See the above charts for highlights of the preliminary findings from the current study of pipeline SCADA.