The complexity of the energy markets has given rise to a host of risks that traditional trading systems often do not address. *Paul McLean-Thorne* gives his views on a well-designed energy trading and risk management system

Beat the system

> **Paul McLean-Thorne: energy trading companies need to conduct a diagnostic study**

★ In June, a simple cut-and-paste clerical error caused Canadian power company TransAlta to submit winning bids for routes on the New York independent system operator (ISO) that it did not intend to win. The error went undetected by any value-at-risk (Var) calculations or stop limits until the New York ISO announced the company had won – by which time it was too late to reverse the bids. The error cost the company $24 million.

Operational risks in trading environments are well known. However, the energy markets have brought in whole new dimensions of complexity that are not addressed by the processes, models and systems built for the financial markets. This complexity is due largely to the physical nature of energy, introducing volumetric risk, spot volatility, delivery risk and the balancing risk that proved so costly to TransAlta. Additionally, such incidents as the price spikes in the Californian markets have led to the questioning of the value of the Var models developed for the financial markets and the evolution of new concepts such as profit-at-risk (Par).

Moreover, deregulation is happening piecemeal, country by country, commodity by commodity, with each market seemingly feeling the necessity to institute different structures and rules. At the same time, the traders are developing complex structured products to create higher margins. The consequence has been that energy trading risk management (ETRM) systems struggle to accommodate the business change.

For instance, shortcomings in ETRM implementation might mean traders will have to start entering multiple deals to handle a single trade. While the exposure might be correct, the system might no longer be able to produce the confirmation or invoice for the entire trade, so straight-through-processing (STP) will break down. For example, one company was entering 72 separate deals into their ETRM system for a single three-year power trade.

Eventually, the traders will negotiate contracts that the system cannot handle at all – for instance, a complex pricing formula or a trade with multiple legs or path-dependent price characteristics. As they cannot see the exposure in the system, they will build a spreadsheet to model the trade. They will also have to inform middle and back office of the trade. As the complete position is no longer in the system, the middle office will have to build another spreadsheet to download the positions from the ETRM system and incorporate the traders' spreadsheet positions.

Eventually, the ETRM system will become a bottleneck between everyone's spreadsheets and will add little value.

All this means that there is now as much operational risk as when the ETRM system was first installed to replace the spreadsheets and combat this risk.

Usually, it is then decided that the ETRM

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Frank Rasmussen, Energi E2

system is adding little value and a package evaluation is conducted. Eventually, a new ETRM system is implemented and the cycle starts again.

Frank Rasmussen, general manager of power sales & trading at Danish production and energy trading company Energi E2, says: "One main obstacle is to get organisations to understand what ETRM requires in terms of knowledge, systems, data and processes (and investments). They are used to spending huge resources on SAP systems, for example, but not on trading systems."

Based on our experience at Seminel, we would recommend the following course of action to break the cycle:

★ conduct a diagnostic study documenting the ETRM processes, map the processes to the systems and identify the gaps

★ evaluate whether the gaps can be filled by better use of the system, a system upgrade, new reports, interfaces, customisations, and enhancements (RICE) or simply by business process change

★ assess whether the IT architecture is sufficiently flexible to meet the demands of the business. The trend is towards middleware and componentisation

★ review the relationship with the ETRM supplier: do they understand the business change and how their product might better support the business?

★ one issue could be that the relationship with the supplier is always either at the senior account level or at a bug-fixing technical support level but not at the business process level

★ build a plan to address the problems and monitor that progress is being made.

Of course, the answer might still be to invest in a new system. Nevertheless, a small investment in a diagnosis such as that mentioned above is effectively the premium the company invests to have a 'real option' of simply having to fix issues that turn out to be not particularly difficult. The alternative is to risk investing substantial time and money implementing a new system that might not really have been necessary. ER

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