



Risk management at Xcel Energy

The Risk Grid allows informed allocation of billions of resource dollars

Serving 5.3 million customers in eight states, Xcel Energy operates one of the world's most diverse energy portfolios. With dozens of electricity-generating plants driven by coal, natural gas, nuclear, hydroelectric and wind sources – and tens of thousands of miles of pipeline – Xcel is exposed to numerous sources of volatility and risk whose time frames can extend from a couple of months to decades.

Our largest three sources of risk are market risk, credit risk and commodity risk – which create variability in both revenue and expenses. There are also other risk issues in energy utilities that relate to plant and operating safety, social responsibility and environmental risk.

Regardless of the source, our challenge is to simulate potential exposures and quantify the various risk factors. At a top level, that creates two important tasks for the enterprise risk management (ERM) team. First, of course, is performing the many sophisticated calculations and simulations based on complex models that we've created. But just as important, our team must interpret and present those numbers to the Risk Management Committee, senior management, the board of directors and

other decision-makers. We have to be able to explain what they mean before initiatives and investments can proceed. Without clear explanations, these executives cannot use the analysis to allocate billions of dollars of resources.

A grid to represent risk status

To meet this challenge, Xcel has adopted and deployed a sophisticated Risk Grid that leverages SAS risk management solutions and business intelligence software. Using familiar stoplight and dashboard metaphors, this grid highlights the projected duration, earnings per share (EPS) impact, and severity of various risks. The grid encompasses both strategic and tactical risks, including those that are reported, audited and covered in the firm's Form 10-K disclosures.

The significant task of identifying and capturing those risks from across the enterprise in a single grid requires a structured, methodical process. Each quarter, our risk management team meets with managers and executives from various areas of the company. We use questionnaires, conduct Q&A interviews with key stakeholders, and identify and standardize the risks and translate them into projected EPS impact – our ultimate risk metric. We've found that the business units are most eager to participate in these meetings because we provide a channel for them to “communicate up” the risks that they see on a daily basis.



Based on these input and analysis sessions, the Risk Management Committee decides which issues merit further elevation and inclusion in the corporate risk grid. In this manner, the business units are true participants in ERM. This provides a level of clarity and accuracy that we don't believe is possible through traditional top-down approaches.

At the board level, Xcel can then make informed decisions regarding resource allocations, timings and other strategic aspects. For example, we might encounter a short-term issue relating to a plant that we've judged to be a "red" status risk in three to five years if the risk is unaddressed. The resulting action item might be to get the leaders of that business unit, who have visibility and responsibility, to develop a plan of action so that the Risk Management Committee's calculation reduces its status to yellow and green. That might involve, for instance, capital allocations, but now the people who sign off on multibillion-dollar expenditures will have greater transparency into the risks attached to those major decisions.

The Risk Grid helps Xcel over the longer term as well. For instance, we might recognize that one of our plants is on course to encounter a resource constraint issue in 2022. The facility costs nearly \$1 billion to build, but given the resource constraint, it can't generate electricity in accordance with its design capability. In an era of greater regulatory

oversight and corporate accountability, the only responsible course of action is to deal with the issue today and appropriately resolve it at the lowest possible cost. Because we've identified it, we can form a task force to quantify and analyze alternative risk-adjusted strategies and return to the board with recommendations and costs, including how to recover the costs from future rates.

Begin with data

We've invested extensively in this ERM infrastructure, but its value is directly predicated on the quality of the data – transactions, prices, assumptions, forward curves – and our ability to surface it to the right people in the right form at the right time. Some of this involves simple data transformation processes from hundreds of sources and locations, but that's data we must carefully audit and validate. Making the time and financial investment to perform that validation is an essential, but unsung, step in our ERM program. Then, we apply the SAS Analytics workbench, including SAS Risk Dimensions, to create simulations and scenarios and generate visual reports.

It's an approach that has elevated risk management at our company. Recently, our CFO updated our current status for a leading ratings agency. When he presented the Risk Grid, the ratings team enthusiastically commented on the analysis and nomenclature driving ERM throughout

the organization. When they asked what consultants Xcel had hired to prepare the analysis, we were proud to tell them we'd completed the Risk Grid ourselves.

Moving forward, our executive management has made it clear what Xcel's next steps will be with respect to risk management: centralized analytics. We aim to continue our ERM journey by starting to transfer our knowledge and skills in standard ways and create more uniform views to further improve the analytics used to support our capital spending and build or buy decisions. ●

BIO Cary P. Oswald, Managing Director, Risk Strategy and Control at Xcel Energy Inc., has in excess of 20 years of experience in wholesale energy trading, commodity risk management and enterprise risk management. Oswald has worked for firms representing all facets of the energy industry, including exploration, refining, transportation and utilities.

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