

Ground Zero for Risk Management Decisions: Transparency and Transactional Fidelity in Managing Market Risk Exposure

Contents

Executive Summary.....1

Lifecycle Visibility.....2

Capturing Volumetrics.....5

Non-Stop Risk Assessment.....6

Data Decomposition and P/L Disaggregation.....7

Conclusion.....7

“A company must understand the basis risk of your physical position as well as the underlying whole price exposure.”

Executive Summary

For many companies in our industry today, it is “Ground Zero” time—a principal defining moment when every energy company must identify its market position and select the right tool for the right task. And the fundamental “Ground Zero” in making savvy market decisions lies in having accurate information on the exposure to changing commodity market prices due to physical transactions as well as associated derivative activity. This is commonly referred to as “seeing your physical and paper activity together.” It demands “transactional fidelity” to fully understand the market

exposures from both physical and financial activities. A comprehensive trade management platform offering transactional fidelity, supported by robust risk analytic tools, separate the players that are merely reactive (poor position visibility, unrecognized market exposure) from those who are proactive (measured exposures enabling risk controls and mitigation).

In order to fully understand the true market exposure, prices must be captured in the same way the market provides price discovery for those commodities and enables reporting of those components of market exposure.

White Paper by Brian Busch, Director of Risk Solution Products
Brian brings over 16 years of trading and risk management experience in the energy industry. He is responsible for the delivery of all aspects of the risk solution for SolArc RightAngle. Prior to SolArc, Brian served as the Risk Manager for the global crude trading desk at Koch Industries. He also managed the price structure book for the crude oil supply operations at Ashland and later Marathon Ashland.

“The right software solution can help a company manage its price exposure in the marketplace.”

In other words, you must understand the basis risk of your physical position as well as the underlying whole price exposure. In order for a company to optimize its position management, avoid hidden exposures and assess strategic market moves, it is imperative to skillfully assess the solution options that can successfully handle energy’s complex and fragmented market process.

Lifecycle Visibility

The right software solution can help a company manage its price exposure in the marketplace. SolArc’s key differentiating capability is offering automatic, straight-through processing of commodity transactions data from SolArc RightAngle into robust RiskCenter, VaRCenter, and CreditCenter analytics software solutions. The resulting sum total is a comprehensive physical-to-

financial “virtual view” of all deals and comprehensive exposure analysis. The solution architecture of SolArc’s flagship product, SolArc RightAngle, comprises deal capture, deal and contract administration, scheduling and inventory management, pricing and valuation, and accounting and settlement. The functional extension to SolArc RightAngle, RiskCenter, provides risk analytics and reporting. In a single, unified lock-step of transaction management and workflow processing, SolArc’s beginning-to-end RiskCenter solution brings all transactions, physical and financial, under a single umbrella of straight-through processing for robust analysis of price exposures and deal economics.

“Implementation time and processing costs are minimized as integration expenses and costs for external data feeds are significantly reduced.”

As an added bonus, fully automated, integrated, and flexible risk IT also allows a company to painlessly implement corporate-wide procedures and modifications, define and regulate staff actions, ensure compliance with regulations (like Sarbanes-Oxley), mitigate exposures to harmful market moves, and move quickly to exploit new market opportunities. Plus, implementation time and processing costs are minimized as integration expenses and costs for external data feeds are significantly reduced.

Companies using nominal homegrown IT systems can quickly discover that piecemeal IT is a market liability, unable to meet the computational requirements of energy’s increasingly complex supply routings, trades and optionalities—a fragmented

system adrift in a mushrooming sea of traded volumes, calculations and risks.

Companies that rely heavily on spreadsheets often lack the flexibility and scalability to evolve under new market behaviors and business requirements.

In order for a commercial operation to correctly manage and value physical and financial commodity transactions and exposures, their risk management solution should include:

Seamless integration

- Of all IT components.

No reliance on manual (external) input or any off-system calculations

- Manual settlement, reconciliation, valuation or system updates, which lead to inaccuracies and SOX non-compliance

“Companies using nominal homegrown IT systems can quickly discover that piecemeal IT is a market liability.”

Effective capture, accuracy and management of volumetrics

- Assess the best-available volumes throughout the transaction cycle, at any place and time (by nomination, schedule, actualized, etc.)
- Ability to tie these to market value and profit and loss changes (location, quality, structure, time effect and exposures)
- Management, accounting and valuation (a product quality-based valuation) of blended products, without losing price points

Effectively link cash flow management with risk management

- Deconstruction of price exposure into those components that provide price discovery to the market
- Superior reporting flexibility

Model real market behavior with appropriate curves

- Reflect actual price relationships over time in detail

Manage overall company exposure, cash flow and credit instruments

- Utilizing direct transactional data for enhanced, experience-based credit control

Provide extended risk analytics

- Tools like Value at Risk (VaR) analytics with price, volatility and supply/demand stressing
- Full revaluation for options, scenario analyses, data maintenance and accurate cash flow report generation
- Ensures in-depth analysis of exposures for each portfolio, book or strategy

Provide a clear, end-to-end view of deal capture

- All the way from a deal's front-end input through risk management
- Effectively capturing, reporting, controlling and accounting for each and every transaction and resulting market exposure.

“SolArc RightAngle ensures the effective capture, accuracy and management of “best-available” volumes throughout the transaction cycle.”

Capturing Volumetrics

Unlike other software vendors who started out focusing on the financial derivatives market, SolArc pioneered a philosophy that emphasized the core importance of energy transaction management—the accurate capture and valuation of physical commodity transactions. In order to provide users precise position reports from both a volumetric and financial perspective, a system must have the ability to pull data from any point in the supply chain or by commodity, portfolio, book, or location. It should also offer the ability to readily assess, measure, and report price risk exposure. Lacking an emphasis on physical volumetrics, finance-based IT vendors can allow users to plug “bad” (inadequately detailed, preliminary, outdated or incomplete) data into their stand-alone risk analysis packages. This worst-case

scenario in wayward processing can cause costly pile-ups of poor market decisions, incorrect exposure analyses, and data clean up.

SolArc RightAngle ensures the effective capture, accuracy, and management of “best-available” volumes throughout the transaction cycle, along with the ability to tie these volumes to market value and profit and loss changes (location, quality, structure, time effect, and exposures). Only after precise physical volumetrics are attained and combined with the volumetric exposure from associated derivative trades, can the work of risk assessment, stress testing (scenario analyses), Value at Risk (VaR), back testing, and other market data analyses have any validity.

“Many energy commodities, by their sheer physical nature, exact minute-by-minute demands.”

Non-Stop Risk Assessment

Much as you wouldn't consider driving down the street with your eyes closed, managing risk in the energy industry without a complete assessment of exposures presents an unacceptable level of danger in navigating the potholes and collisions of unwanted risks associated with energy commodities. Many energy commodities, by their sheer physical nature, exact minute-by-minute demands for non-stop assessment of market price, location, trading strategies, time period, scheduling, credit risk and more at multiple points in the transaction cycle. For instance, SolArc's RiskCenter day-to-day mid-office tools provide an accurate current and forward-looking view of a deal, effectively capturing the market exposures and any shifts in

price, credit, product quality, and volume. This becomes especially critical when dealing in crude or refined products, (where transport can take weeks or months), and also in the quality assessment and blending of coal and oil products.

“RiskCenter provides both the varying granularity and complex construction of price curves that reflect the realities of today’s markets.”

Data Decomposition and P/L Disaggregation

In energy’s increasingly complex environment, the ability to decompose risks into individual components is crucial but requires implementation of a very robust system to manage various levels of price data resolution. And while some functionality may be embedded in an IT system, it may not be easily manipulated or understood.

In order to achieve the necessary levels of decomposition required to understand the impact on day-to-day P/L changes, RiskCenter provides in-depth risk analysis of market price granularity. This includes the use of analytic measures like VaR, Component VaR (a “drill-down” examination of VaR by individual trades/trader, counterparty/counterparties, or by portfolios/strategies) and scenario analysis. The result is detailed market price and

positional data that is available to reflect the reality of the market place. In other words, it provides a virtual reality of the markets price discovery mechanisms and trading practices, so that all aspects of a commodity trade (basis, structure, and flat price) can be measured.

Conclusion

A sophisticated risk management solution combines the best of risk exposure analysis with high-fidelity physical and financial transaction management. RiskCenter provides companies a seamless solution; an unparalleled view of all market risk exposures created by physical operations as well as financial derivatives.

About SolArc, Inc.

SolArc, Inc. is a leading provider of supply, trading and risk management solutions for global energy companies. The flagship product, SolArc RightAngle, integrates deal capture, scheduling, inventory management, pricing, accounting, position reporting, and risk analysis in a single platform solution. SolArc's products work with existing information systems including corporate ERP systems, to provide customers with a flexible solution that leverages the infrastructure of their existing systems. Customers receive competitive advantages from reduced transaction costs and improved commodities procurement and trading decisions based on accurate position reporting and inventory management. Headquartered in Houston, SolArc also has offices in Tulsa, Oklahoma; London; Singapore; Beijing; and Hong Kong. For more information on SolArc's products, visit www.solarc.com.



**Corporate Headquarters | 9701 Richmond Ave., Suite 250 | Houston, TX 77042
Phone: 713-260-5100 (Outside the U.S.) | Fax: 713-339-4337 | Toll-Free: 1-888-594-7320**

Tulsa Office | 320 S. Boston, Suite 600 | Tulsa, OK 74103 | 1.888.594.7320 | 918-594-7320 (Outside the U.S.) | Fax 918.594.7330

Hong Kong Office | 2/F Shui On Centre | 6-8 Harbour Rd, Wanchai | Hong Kong | Phone: 852-28248078 | Fax: 852-28248000

UK Office | Clarendon House | 52 Cornmarket Street | Oxford, OX1 3HJ | United Kingdom | Phone: 01865 304046 | Fax: 01865 304001

www.solarc.com