



## Aligne Bulk Fuel Management

*Automating and streamlining the fuel supply chain*

### Overview

With global concerns about climate change and warming, security of supply, and extreme price volatility, energy market participants face increasing pressure to manage risks related to supply. Trading and hedging provide methods to help manage these risks, however, the complexity of the physical fuels supply chain demands additional tools. Further, determining the correct fuel mix relative to varying seasonal changes and evolving market pressures becomes more complicated by variable pricing components and challenges associated with managing emission implications.

For companies that utilize fuel to generate power or consume large volumes of fuel in production of goods or services, it is critical to more effectively manage fuel inventories and logistics with accurate and immediate information.

**Reducing the cost of procuring, transporting or consuming fuel by even a few pennies per unit can result in hundreds of thousands of dollars in savings over time for a fuel-intensive business. Aligne Bulk Fuel Management systems can provide the ability to improve supply decisions and to manage procurement and delivery of fuel.**

### Real-time Information from Purchase to Generation

Fuel is typically the largest direct cost in generating electricity and frequently the most expensive operational cost for many energy-related businesses. Managing fuel costs helps consumers, suppliers and fuel transporters to operate more efficiently. SunGard's Aligne Bulk Fuel Management provides the foundation for effective bulk fuel management by helping users administer contracts, manage scheduling and logistics of the fuel, track inventory, perform cost accounting functions, monitor vendor performance, create reports and analyze fuel costs – at the push of a button. Additional modules such as Aligne Fuel Plan Management and Aligne Rail Car Management extend this capability to help streamline the planning, budgeting, scenario management and rail car maintenance, repair and tracking.

### Managing the Fuel Spend

Aligne Bulk Fuel Management helps to more effectively manage the acquisition and consumption of fuel in an increasingly complex and volatile energy environment:

#### Complex Fuel Mixes

Aligne Bulk Fuel Management supports improved procurement decision-making that has become increasingly complex as a result of coal types with varying quality characteristics such as level of sulfur content, ash content, and BTU value. Additionally, Aligne Bulk Fuel Management supports the procurement of coal as well as newer fuel types including petroleum coke, synthetic blends, biofuels, and renewables.

#### New Contracting Methods

Fixed rate contracts are giving way to variable priced contracts with complex fuel rates based on heat content, power prices and market indexes and other market variables. Buyers are trading and hedging in order to manage the risk associated with fuel purchases. Aligne Bulk Fuel Management helps to capture and administer contract terms and conditions for a range of contract types including long-term and spot contracts, and provides automated notification of penalties and premiums.



### Inventory, Transportation and Consumption

More complex transactions have increased the role transportation plays in the overall supply chain. Additionally, fuel procurement managers are under pressure to reduce inventory carrying costs while maximizing the quality of the fuel to mitigate against environmental and compliance restrictions such as emission caps and/or penalties. Meanwhile, performance indicators related to the quality of the commodity purchased and/or quality rejection alerts are also needed by plant personnel, in real time, to support inventory decision-making.

Aligne Bulk Fuel Management supports inventory and quality management of fuel supplies which provides real-time information in conjunction with the specific generation facility to help achieve optimal heat rates, at the least cost, and within emissions constraints. Aligne Bulk Fuel Management can handle an unlimited number of facilities (stations, terminals, disport locations, etc.) and/or inventory locations (i.e. stock piles or tanks). Any number of physical movements (i.e. shipments) and consumption (burn, miscellaneous usage, etc.) may be managed for each station and for any number of commodities (including fuel types such as coal, oil, limestone, and biomass)

### Storage Location

Tight management of fuel inventory to get the most production generated with the least amount of heat while minimizing emissions typically requires separate storage locations. Real-time information is needed for blending of inventory for each plant to optimize the consumption. Additionally, managing SO<sub>2</sub>, CO<sub>2</sub>, NO<sub>x</sub>, mercury, and other air contaminants requires diligent record keeping and reporting. Aligne Bulk Fuel Management supports the real-time management of multiple storage locations along with their respective quantity (or volume), monetary value and quality.

### Fuel Reporting

Environmental reporting is just one example of the increased need for reporting across fuel management processes. Others needing information include management, operations and financial personnel, customers and auditors. Accurate reporting requires consistent, repeatable processes resulting from a reporting infrastructure that improves data accuracy and real-time access to information and is tightly integrated with accounting and/or risk management systems.

Aligne Bulk Fuel Management provides a broad base of functions to help fuels managers streamline the processes related to buying, transporting, managing and accounting for fuels. Multiple parties ranging from buyers to accountants to plant managers can enter and interactively view the latest information about contracts, consumption, vendors, adjustments and corrections, transportation companies and customers. Updated information fosters proper planning, management and tracking of commodities and simplifies invoicing and accounting, providing an accurate audit trail.

#### **EFFECTIVELY MANAGING THE SUPPLY CHAIN**

Aligne Bulk Fuel Management provides methods and technologies for automating, integrating and streamlining the fuel supply chain providing benefits such as:

- *Readily available, accessible information for improved decision making,*
- *Reductions of errors through improved controls,*
- *Efficient, predictable, and repeatable processes that are less dependent on individuals,*
- *Ability to adapt quickly and efficiently to changes in fuel requirements, and*
- *Providing consistent, timely reports to regulators, shareholders and customers.*



## Automating Contract Administration

Aligne Bulk Fuel Management integrates all inventory management and quality data with accounting processes for more effective, automated contract management and administration:

### Purchase Contract Administration

Aligne Bulk Fuel Management provides a central repository for fuel related information and a common reporting and query tool for the organization. As a result, users can store counterparty and purchase contract information about commodities or services such as solid and liquid fuels, transportation, and lab analysis from a specific counterparty with specific payment terms. Users can create contracts individually or using the contract template feature. Contracts can maintain complete details of the purchase agreement to create and report information in real time such as counterparty and contract information terms including pricing, quantity, quality, shipments, and costs by contract.

### Commodity Sales

Aligne Bulk Fuel Management captures the terms of sales contracts and the details of each sale, and automatically creates settlement transactions based on terms. This helps users meet contract volume commitments by selling fuel the company cannot take delivery on. Additionally, commodities handled include both fuels and by-products, such as ash or gypsum. Reports detailing sales can be automatically generated and profit/loss on sales calculated.

### Tracking Volume

Aligne Bulk Fuel Management keeps track of volume related commitments tied to respective contracts. This enables users to monitor the quantity or volumes received versus the numbers remaining on purchase contracts by defining volume commitments.

### Multiple Contracts, One Volume Commitment

Contract Administrators can create the volume commitment and then aggregate any number of contracts to this commitment. Aligne Bulk Fuel Management monitors the activity of the associated contracts and updates the volume commitment based on this activity.

### Multiple Currencies

Aligne Bulk Fuel Management supports multiple currencies from a purchasing/invoicing as well as inventory valuation standpoint. Users can enter and record exchange rates as well as post adjustments to exchange rates at any point in the fuel supply chain life cycle. Aligne Bulk Fuel Management offers the ability to track inventory in any number of currencies.

### Complex Pricing

A Formula Maintenance Process is provided within Aligne Bulk Fuel Management that allows users the ability to uniquely define their own formulas, using all commonly available mathematical functions and operands, including conditional logic statements. To facilitate the ability to accurately define formulas, users may also “test” the formula within the Formula Maintenance process before utilizing it within Aligne Bulk Fuel Management. This gives users significant flexibility in supporting price models within contracts. Aligne Bulk Fuel Management offers various types of formulas. These include pricing methods (fixed, indexed, volumetric, tiered, etc.), penalty or bonus calculations for quality adjustments associated with solid and liquid commodities, guaranteed volumes committed for one or more contracts and unit of measure conversions.

Further, once a formula has been defined it can then be referenced throughout the system as appropriate for any type of charge and any number of contracts, including fuel, transportation or any other miscellaneous charge or accounting transaction. With each use of a formula, the relevant variable values can be changed without having to recreate the formula itself. Aligne Bulk Fuel



Management also provides the ability to specifically define the fuel surcharge and then associate the charge to the various contracts, if applicable.

### **Contract Payment Terms**

Aligne Bulk Fuel Management provides significant flexibility to define and support any number of user defined payment terms such as net X days from receipt, X days from ship date, X days from receipt of invoice, and/or X days from invoice date. Using these payment terms along with the Payment Processing module within Aligne Bulk Fuel Management, invoices can be created and managed along with their respective due dates having been calculated.. Additionally, payment terms may vary for different charges within any one contract. Users can define default payment terms for each counterparty and subsequently override such defaults at the deal level.

### **Capturing Miscellaneous Costs**

Frequently contract administrators must capture a range of miscellaneous costs associated with the movement of the fuel such as fuel surcharges, freeze control, demurrage charges or port charges. Aligne Bulk Fuel Management can accommodate any number of miscellaneous services associated with the fuel supply chain. These can be defined by the user as additional Commodities or Services and subsequently be used to set up charges related to the service. These charges may be associated with an existing fuel or transportation contract or set up as its own contract with the appropriate counterparty. Additionally, the user has complete control in defining those charges which impact asset and ultimately fuel expense versus other expenses that are incurred but not considered in the evaluation equation for fuel expense.

## **Managing Physical Deliveries**

Aligne Bulk Fuel Management is a multi-fuel (coal, oil, diesel, pet coke, limestone) and multi-modal (rail, truck, barge, vessel, transloading, etc) solution designed to handle the complete supply chain involved with taking physical delivery of fuel:

### **Shipment Scheduling & Shipment Tracking**

Aligne Bulk Fuel Management provides an excellent framework for shipment scheduling and tracking. Users can create, maintain and track shipments for new purchases as well as movements between facilities (i.e. transfer shipment). Previous shipments can also be “copied” to create additional, similar shipments. Users can also track and report on lab and quality information by shipment and resolve lost or delayed vehicles. A range of shipment activities and data are supported by Aligne Bulk Fuel Management including load, receive and unload a shipment; quantity adjustments for a shipment or vehicle; delayed and lost vehicle information; changes to the unload location of a shipment; automated importing of load and unload records; real-time viewing of vehicle status and interactive access to the “As-Received” quality information to easily enter quality results into systems for accounting and audit purposes.

### **Inventory Management**

Aligne Bulk Fuel Management integrates all inventory management and quality data with accounting processes for more effective, real-time decision making. Any solid or liquid fuel type as well as any mode of transportation is fully supported within Aligne Bulk Fuel Management. Aligne Bulk Fuel Management can manage an unlimited number of facilities (stations, disport locations, etc.) or inventory locations as well as an unlimited number of shipments (fuel movements) and consumption (burn, miscellaneous usage, etc.) for each station and for any number of commodities (fuel types such as coal, oil, limestone, biomass, etc.).

Aligne Bulk Fuel Management maintains both the quantity and the associated quality characteristics of the commodity in inventory. This information can be viewed, on demand, at any given time. Inventory quantities and costs associated with each activity are automatically updated. Both solid and liquid fuel inventory for purchases, transfers, adjustments, and consumptions can be effortlessly



tracked. Further, common inventory activity reports such as the Fuel Stock Report and Inventory On Hand Report can be automatically generated as needed. As shipments are received into inventory, the associated quality for each shipment is used by Align Bulk Fuel Management to automatically update the quality of the inventory location on a weighted average basis. Align Bulk Fuel Management also tracks the type of commodity that is purchased and moved into inventory. Align Bulk Fuel Management provides the ability to adjust inventory for any number of user specific scenarios. These adjustments may adjust quantity, quality, monetary values or any combination of these variables. When such adjustments are captured, a complete audit trail is created including comments required to more specifically explain the purpose of the adjustments.

### **Consumption**

Multiple consumption records can be entered daily for all facilities, generating units, commodity, inventory locations, physical units of measure, quantity and purpose. Generation consumption for fuel generation and non-generation fuel usage can be tracked and reported. Consumption can also be recorded for the same day and facility by different users. Consumption may be recorded in either a physical or heat related quality unit of measure.

### **Quality Management**

The ability to properly analyze and capture the quality of the fuel supply is important in order to determine accurate fuels cost. Align Bulk Fuel Management offers detailed functionality for quality accounting such as recording as-received and as-burned quality analysis results and calculating price adjustments related to the quality of the fuel. Align Bulk Fuel Management provides the ability to define the quality characteristics from an inventory and consumption perspective. Multiple fuel quality specifications can be set up and referenced in various places throughout the system, used in formulas and in reports. As shipments are received into inventory, the associated as-received quality for each shipment is used to automatically update the quality of the inventory location. Reports are available within Align Bulk Fuel Management that display the quality associated to the shipment and the quality of the inventory.

For as-burned quality analysis results, quality units of measure can be calculated and posted by the system for the inventory location. The system can also provide notification when the as-burned quality results are out of specification for the generating unit. Users can process quality price adjustments that compare the quality price guarantees and as-received quality results to calculate and post an adjusted price.

Reports provide quality information using different variables and formats including counterparty, shipments, and inventory. Additionally, Align Bulk Fuel Management provides the ability to report emission results based on the quality of the fuel consumed at a specific unit and station. The system displays emission results based on formulas defined by the user and quality and consumption information recorded in Align Bulk Fuel Management.

## **Integrating Fuels Data for Accounting and Settlement**

Align Bulk Fuel Management maintains a real-time general ledger sub-ledger of accounts and transactions and easily integrates with existing accounting systems:

### **Updating Costs Information**

Users can track all inventory related activity for solid or liquid fuel inventory including purchases, transfers, adjustments, and consumptions. The system automatically updates inventory quantities and costs associated with each activity. Several accounting reports, such as Account Transactions and Account Transactions by Account, are available. As an optional feature, accounting information can be exported to the general ledger or accounts payable system. Align Bulk Fuel Management

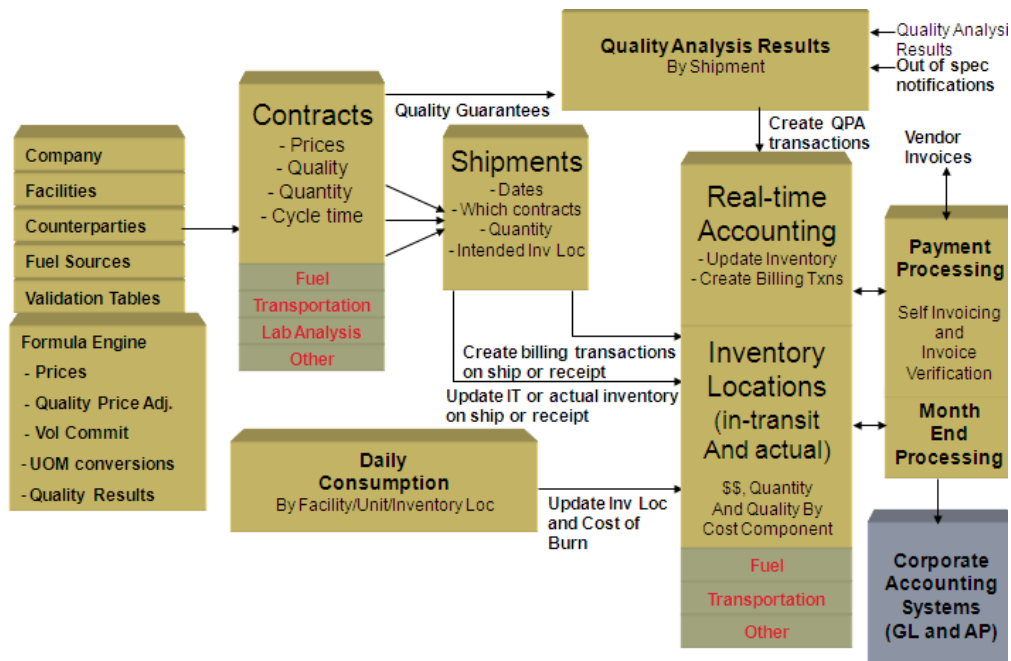


also supports in-transit or receipt-based accounting and payment processing in-addition to capturing and posting fuel receipts.

**Payment Processing**

Aligne Bulk Fuel Management supports the settlement process capturing and managing either the vendor’s invoice or invoices generated within the system (self-invoices) or both. With vendor invoicing, payments are processed by matching the actual vendor invoice with the system-generated charges based on contract and shipment information. Self invoicing enables users to process payments for all outstanding charges in the system without waiting to receive a vendor invoice or as a means to verify against a vendor’s invoice. Payment processing enables users to set up interest, discount and release date processing, adjust shipment charges or quantity on a vendor invoice, certify vendor invoices, and control and capture payments. Users can also utilize the approval process offered by the solution. Payment processing reports include Purchase Invoice, Invoices Not Approved, Open Payables, Payment Transactions, and Self Invoicing Payment Batch. Self-generated invoices can also be used for payment or verification for all vendors (fuel supplier, transporter(s), third-party charges, etc.).

The following diagram illustrates an Aligne Bulk Fuel Management overview:



**SunGard — Solutions for Energy**

SunGard’s energy solutions help energy companies, industrials and financial services, to efficiently compete in global energy markets by streamlining and integrating the trading, risk management and operations of physical commodities and their associated financial instruments. These solutions provide front to back-office support for capturing deals, delivering market data for valuation, clearing and reconciliation of transactions, invoicing and accounting for transactions, analysis and management of risk, and physical transmission or delivery of commodities. SunGard Energy



**SUNGARD**

ALIGNÉ  
BULK FUEL MANAGEMENT

Integrated energy  
transaction solutions.  
Data | Understanding |  
Action

Solutions also support the logistics and inventory of fuels used in producing power and industrial products.

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