

CASE STUDY

ONSHORE AUSTRALIAN OPERATOR PRODUCTION DATA MANAGEMENT SYSTEM (PDMS) IMPLEMENTATION

BACKGROUND

An Australian onshore exploration and development company (hereinafter referred to as “the Operator”) recently acquired equity and operatorship of a Northern Territories field. This field has a satellite production unit which produces into a central treatment plant with around 100 active wells. The production facilities comprise standard separation, compression and dehydration of the export gas stream. Oil is dehydrated with condensate spiked into an underground reservoir to maintain the reservoir pressure or used as gas lift on oil producing wells.

Daily gas sales nominations are received from the customers. Oil and stabilised condensate are trucked to the coast. As part of the handover of operatorship to the Operator, the previous operators could not make the hydrocarbon allocation application (Energy Components) available as part of the asset operatorship transfer.

The Operator had to act quickly too put in place a hydrocarbon allocation application to deliver its monthly government and JV partner reports. This had to capture the daily metered readings, theoretical daily well production, process and well parameters, fuel and flare, plus operational and safety data.

THE REQUEST

Elite Energy was requested to provide a Production Management, Allocation and Visualisation and Reporting capability consisting of:

- ✓ Daily and Monthly Production Processes;
- ✓ Production database to capture data;
- ✓ Interface to field data capture; - SCADA and Excel
- ✓ Intuitive Web based user interface;
- ✓ Intuitive Visualisation and Reporting capability;
- ✓ Documentation of the hydrocarbon allocation process and application;
- ✓ Hydrocarbon Allocation Manual (HCAM) and;
- ✓ Training and support.

The Operator had constraints in terms of cost and delivery time frame which had to be met. Thus, an imaginative and nimble solution was critical.



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THE APPROACH

Elite Energy has extensive experience in the Production Management, Allocation, Visualisation, and Reporting arena in the Oil & Gas industry. This enabled us to select the best solution for the client at a competitive cost. An initial review and costing of the standard offerings in the market place confirmed that the Operator's requirements would be very difficult to satisfy.

By working with eDataViz, the developer of Energy Builder, a hydrocarbon allocation application, we could satisfy all the Operator's requirements and in the required time frame. In under 10 weeks Energy Builder, and the Operator's other requirements were implemented and fully operated.

The other elements of the Operator's Production Management, Allocation, Visualisation and Reporting requirements consisting of processes, documentation, training and support were also delivered. The hydrocarbon accounting and allocation was documented in a Hydrocarbon Allocation Manual extending from reservoir to sales. This provided an overview of the entire process.

Energy Builder is provided under Software as a Service (SaaS) arrangement and has integral help and training videos for all screens functions. It is accessed via standard web browsers and is highly configurable and responsive.

THE REQUIREMENTS

- ✓ Cost containment - monthly SaaS fee and opposed to heavy license fee, heavy implementation costs plus an annual maintenance and support fee. An OPEX versus a CAPEX cost.
- ✓ Speedy of implementation.
- ✓ Configurability - graphical configuration of allocation network
- ✓ Prompt Application response - no latency runs on internal or external servers to suit client
- ✓ Integral Visualisation and Reporting
- ✓ Integral Business Process Management (BPM)
- ✓ Minimal Training requirement
- ✓ An evergreen product, enhancements to existing functionality and new functionality to be automatically available to clients at no additional cost through SaaS agreement

The development team at eDataViz has over 20 years of experience of implementing hydrocarbon allocation systems around the Globe. This has allowed them to engineer out many of the deficiencies found in other commercial products. Support requests from operator since implementation has been almost non-existent. The operator intend to extend Energy Builder to cover other operator fields.



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- ✓ As vendor, agnostic company Elite Energy was best placed to provide a cost effective and timely service to the client. As practitioners as opposed to consultants Elite Energy has a different business perspective from other consulting houses. Economic, nimble effective solutions - cost and time bounded.
- ✓ Costs of acquisition and implementation of a key business application was contained to a sensible level commensurate with current business climate.
- ✓ eDataViz are a highly reactive organisation sensible to customers' needs with an evergreen product. No periodic upgrades.
- ✓ Energy Builder is being extended to provide not only a core hydrocarbon allocation application, but a full production management suite of tools. This will allow the operators to extend the reach of Energy Builder in the future.
- ✓ Energy Builder is intuitive, requiring minimal training, hence avoiding any disruption of the day-to-day work of the operations staff during configuration and implementation.
- ✓ Elite Energy and eDataViz delivered a complete package, covering HCA to the operator (software, process, training and documentation).
- ✓ Testament to the success is the fact that the Operator has required almost no support during the initial months of use.

Network Allocation

The diagram illustrates a network allocation for a TRI (Total Risk Index) system. It features a central node, TRI_A_GAS_COMP Node AL(1), which is connected to several other components: TRI_A Facility AL(3), TRI_A_RISER_2 Hook Up AL(3), TRI_A_GL Hook Up AL(2), and TRI_A_GAS_INJ Hook Up AL(3). The TRI_A Facility AL(3) is further connected to a series of hook-up nodes (H01 to H08). The TRI_A_RISER_2 Hook Up AL(3) is connected to a series of hook-up nodes (H01 to H05). The TRI_A_GL Hook Up AL(2) is connected to a series of hook-up nodes (H01 to H05). The TRI_A_GAS_INJ Hook Up AL(3) is connected to a series of hook-up nodes (H01 to H05). The diagram also shows various data flows and connections between these components, including a 'Data Flow' from TRI_A_GAS_COMP Node AL(1) to TRI_A_RISER_2 Hook Up AL(3) and a 'Data Flow' from TRI_A_GAS_INJ Hook Up AL(3) to TRI_A_GAS_COMP Node AL(1).

Business Process Modelling

The diagram shows a business process flow for data capture, validation, and reporting. The process starts with 'Data Capture' and 'Validation and Report' steps. The 'Data Capture' step involves 'Receive Data Sheet', 'Check Update Data Spreadsheet', 'Load Data Spreadsheet', 'Manual error Data entries, Red operation, Trust codes', and 'Input Data Sheet'. The 'Validation and Report' step involves 'Visual check and validate Data Sheet', 'Visual check and validate Data Sheet', 'Visual check and validate Energy Data Sheet', 'Visual check and validate Flow Data Sheet', 'Check Daily Allocation network', 'Run Daily Allocation network', 'Print Daily Production report', 'Validate Data to prevent further update', and 'End'. The process also includes a 'Data Flow' from 'Data Capture' to 'Validation and Report'.

Visual Analytics

The dashboard displays a line chart showing 'Production Data' over time. The chart includes a 'Legend' with 'Production Data' and 'Total Volume'. The 'Production Data' is represented by a blue line, and the 'Total Volume' is represented by an orange line. The chart also includes a 'Table' with 'Production Data' and 'Total Volume' columns. The table shows data for 'Production Data' and 'Total Volume' for various dates. The chart and table are used to analyze production trends and compare them with total volume.

Production Data Screen

The screen displays a table of production data. The table has columns for 'Production Data', 'Total Volume', and 'Production Data'. The table shows data for 'Production Data' and 'Total Volume' for various dates. The table is used to analyze production trends and compare them with total volume. The table also includes a 'Legend' with 'Production Data' and 'Total Volume'.