

## 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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### THE BENEFITS TO THE ONSHORE OPERATOR

- ✓ 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.

### Some Visuals of the Application

The figure displays four screenshots of the Energy Builder application interface:

- Network Allocation:** A schematic diagram of a gas network. It shows nodes like "TRI\_A\_GAS\_COMP Node AL(1)" and "TRI\_A\_Facility AL(3)" connected by gas pipelines. Various wells (H01-H08) are connected to the facility. A legend indicates "Gas Export" (green arrow), "Gas Inlet" (red arrow), and "Gas Inlet/Export" (double-headed arrow).
- Business Process Modelling:** A process flow diagram titled "Data Capture" and "Business". It starts with "Begin", followed by "Receive Input Data", "Check/Update Field Area Spreadsheet", "Load Field Area Spreadsheet", "Run Field Area Services", "Input Discrepancy Data", "Visual check and validate well test data", "Visual check and validate Tank data", "Visual check and validate Energy Grid well test data", "Visual check and validate Flow Stream data", "Check Daily Discrepancy Report", "Run daily estimation services", "Print Daily Production Report", "Run Field to present future update", and ends with "End".
- Visual Analytics:** A dashboard with a search bar and a line chart showing production data over time. The chart has two series: "Actual" (blue line with circles) and "Forecast" (orange line with diamonds). The x-axis represents time from 2019-01-01 to 2019-12-31. The y-axis represents production volume.
- Production Data Screen:** A table showing production data for various wells. The columns include "Object Name", "Gas Well Status", "Gas Well Name", "Net Gas Flow", "Actual Gas Flow", and "Net Gas Flow". The table lists wells such as "TRI\_GAS\_INJ\_Hook Up AL(3)", "TRI\_A\_RISER\_2\_Hook Up AL(3)", and "TRI\_A\_GL\_Hook Up AL(2)".