The Background

An Oil and Gas major with complex asset operations in the Asia Pacific region commenced a remodelling exercise of their commercial arrangements for the Joint Venture (JV) participants.

The re-modelling centered around the independent marketing and lifting of products by each JV partner termed Equity Lifting. Previously marketing and lifting was performed jointly on behalf of the JV partners based on an equity split.

This business change impacted the JV partners' entitlement to lift products which resulted in obligation changes for both JV participants and the Operator. This meant that The Client had to implement a revised Production Allocation algorithm within the allocation application new lifting priority calculations, processes and governance changes to the supporting systems were also required.

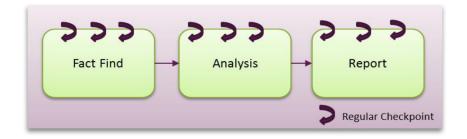
The Requirements

Underpinning the revised model, are the commercial and regulatory requirements with which the Operator is required to comply. Implementing the revised model was driven by a fixed end of financial year target and agreed commencement of JV Equity Lifting. Data integrity had to be maintained over the transition from the existing allocation application to the new equity lifting arrangements.

The Operator had to demonstrate the fidelity of the allocation model to both the JV Partners and Regulatory Authorities to prove a fair and equitable allocation to all JV Partners.

The Approach

Elite were engaged to perform quality assurance review to identify and ensure the level of commercial and regulatory compliance. Elite provided an onsite Production Allocation Subject Matter Expert (SME), who performed a three-stage process providing incremental feedback as items were identified. The duration of the project was one month on site plus additional off-site work to validate and document the findings into a formal report. The final report listed all non-compliance issues to be addressed.



The final report provided a view of commercial and regulatory compliance of the asset from two distinct perspectives namely **Commercial and Technical.**

The Commercial stream covered a thorough review of the Joint Operating Agreements and Regulatory obligations pertaining to the production licence. All calculation and rules pertinent to the commercial allocation of products and internal use of products (e.g. fuel gas) were extracted and documented to provide a baseline interpretation of the commercial construct. All commercial and operations stakeholders participated in the approval of this interpretation. All product streams were considered in scope.

The Technical review examined the allocation of products back to their source (The Client/reservoirs). A multi-pass allocation configuration is used in the allocation application to allocate in both mass and energy. The allocation network had many non-measured streams which required a pre-allocation pass to populate these streams in terms of mass and hydrocarbon components. The calculation code for each of the allocation processes was documented to provide an easily understood description of the allocation processes. During the engagement, Elite built a shadow allocation model to replicate the calculations and allocation methods. This allowed a simple numeric check on the configuration in the allocation application to be carried out. The additional advantage was that changes to the allocation model can now be done in the shadow model to confirm the fidelity/impact of changes prior to implementing in allocation application.

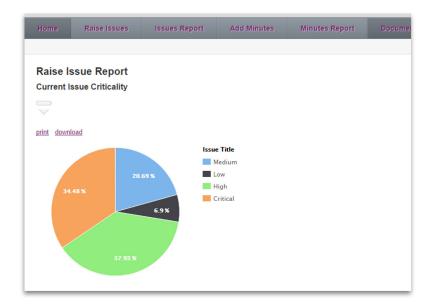
The Outcome

As part of the final report a gap analysis was conducted to ascertain where there was possible non-compliance and the degree of non-compliance. During the review, critical items of non-compliance were presented and addressed as a priority rather than waiting for the final assessment. A risk matrix was developed that allocated the findings to a score and in turn developed the remediation priority.

Priority	Categorization	Urgency
Priority 1	Contractual	Requires immediate attention (1 – 3 months) * *Some Priority 1 findings may fall into the bracket of future projects.
Priority 2	Production Allocation System Build, Operation and Integrity	Should be addressed as a continuous improvement activity (3 - 6 months)
Priority 3	Continuous Improvement Plan	No Priority – review necessity (6 + months)
Priority 4	Observations*1	Remarks



All issues were captured in the Elite Audit issues database and managed jointly between the client and the Elite subject matter expert. This database provided the client with the details of the issues, their priority, perceived impact and Elite's recommendation. Due to contractual sensitivity, no information around these issues can be published.



The final report provided The Client with a high level of confidence on the areas that required immediate, medium term and long term attention. This was presented by the Operator to the JV Partners to demonstrate full compliance on adoption of Equity Lifting as per the agreements.

The Operator can now demonstrate full regulatory compliance through the submission of monthly and quarterly reporting to the JV Partners and the Regulator.

The detailed audit report, commercial interpretation report, shadow allocation model and calculation construct report ensured the production allocation function, information management and reporting were accurate and fully understood.

A key component of the report was demonstrating that the reported production flow and cumulative withdrawal rates were all within the title obligations. Whilst not a requirement for the Regulator, Elite also provided the Operator with documented recommendations and guidance on additional opportunities for further improvement of management of their production allocation process.

