Cultural Change

BP Cleeton Alliance
BP Cleeton Project,
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Contact: Mr. M. Charnley-Fisher

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Objective:

To ensure Operations buy-in to Design decisions.

Background:

Given an existing operational platform, and a recent project where the emphasis on pure CADEX adversely affected OPEX, the project had, as a key success factor, the operations interface. Traditionally a client engineer would have acted as an interface point between designer and operator, and would provide the gateway for all communications. In addition, in order to satisfy a possible need to see everything, the designer would issue all documents for operations review - for a live operations team this takes too much time.

Methodology:

In order to avoid the historical and traditional problems the project team was pro-active in setting up a mechanism for a workable relationship.
First of all a matrix consisting of row headings of information types and priorities, and column headings for individuals was created. The engineering design team then filled the matrix on their best guess of responsibilities for each party/information type:-

- available to advise
- must be consulted
- ultimate decision maker
- contributes to decision
- must be informed
- manages progress
- executes the work
- see typical only

Having set up the initial matrix identifying initial one-to-one interfaces, this was reviewed by operations and a series of meetings/team building sessions used to build the relationships and clarify responsibilities.
An operations interface manager was appointed, not to act as a gateway through whom all information flowed, but with a defined role to ensure that the necessary one-to-one communication was indeed happening.
Engineers were actively encouraged to liaise and meet directly with both onshore and offshore based personnel on their home ground, as well as in the design office for the more traditional safety/design review type sessions.
Finally there was a high degree of participation of the operational team within the overall project risk and reward gainshare system.

Outcome:

There were several benefits to the project in having set up the relationship in this way, including:-

- A comment by a senior individual within operations to the effect that they should duplicate some of the lessons learnt with the project within their own internal organisation.

- Pro-active support by operations in the ideas for improvement of system and active suggestions by them to reduce CAPEX - operations have actively contributed to savings of at least 5% of total budget.
- An engineering team much more sensitive to the issues which affected operations.
- The elimination of the traditional client engineer bottleneck and associated breakdowns in communication and mutual understanding.

Next Step: In some areas the operations interface matrix was too detailed, in others not enough and the matrix could be improved. However, the concept should be extended to cover other interfaces and eliminate the traditional hierarchical communication channels which hamper, rather than help the decision and information transfer processes.

Resistance: The difficulty in ensuring that any interface works is to allocate time to make it happen - other priorities do get in the way. Relationships get established between individuals, not organisations - discontinuity of personnel creates problems in maintaining effective communications.

Remarks: None

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Objective:

To make space for opportunity.

Background:

Traditionally, once sanctioned, major project contracts are let on a basis which is essentially fixed. In time of over-supply the market reacts by bidding, in isolation, extremely competitively. The only mechanism available for the contractor, or supplier, to recover costs is to 'play the contract' and work for change. The project culture becomes one of protecting position and looking for opportunity to make 'change'. The mechanism which the client/purchaser uses to cover this is either to reserve funds to pay for it, or to join the contract game, playing one player against another. In whatever case, it is the parties who are best at playing the contract who win, if at all - the rest lose.

Methodology:

Based on the best concept at the time, the major contractors were selected on the basis of each party clearly demonstrating that they could achieve the competitive commercial rates which they had committed to and on the strength and culture of the team nominated on a 60/40 basis respectively.

A period of front end engineering was carried out, on a purely reimbursable basis, to define the technical definition to be put forward for sanction.

For direct costs the rate basis submitted during the tender process was used to calculate costs. For indirect activities, such as design engineering, estimates were prepared. Due to externally applied global cuts in the past, engineers over-estimated. Initial numbers were therefore challenged to remove excess fat and result in a 'realistic' target which, in the case of engineering, was 30% below initial estimate. These were the budgets which were allocated. This philosophy, where all individual contingencies were taken out, was applied to all parties. A risk analysis was carried out both internal to the Alliance and externally by the Client, and the overall project sanctioned with sufficient margin to cover the likely risks, or, if successful, provide sufficient incentive for all parties not to be adversarial.

Having agreed 'realistic' outcomes which, at the time, there was 50% confidence in achieving, each party was further challenged to create a control budget and plan which reflected a visionary outcome. In the case of engineering, leads at the time reluctantly agreed to control to 15% lower, but with the full knowledge that the full margin was theirs if necessary.

Outcome: By creating this margin, both at the high Alliance level and at the individual level, the need to invest significant effort in protecting scope and identifying changes has been eliminated - estimates as high as 50% of management effort have been associated with this type of activity.
At the working level, because each party knew there was some margin, there was freedom to investigate ideas for improvement and, in so doing, identify significant savings for the whole Alliance.
As these tight control budgets were developed by the people who had to control to them, and not by external corporate or client management, there has been much greater commitment to achieving vision - demonstrated by a project which is predicting savings of 18% of sanction budget.
Again, because there has been a lack of external constraint, the project as a whole has demonstrated tremendous flexibility in accommodating significant 'change' without significant commercial impact - the whole layout had to be modified to accommodate a late change from inlet scrubber to filter coalescer and options to add gas reception facilities left open very late - steel was being cut.

Next Step: To apply and develop lessons learnt to further projects.

Resistance: Had there not been significant effort spent in team building and changing culture, there would have been much greater resistance to releasing budget, and controlling to vision. To some extent the mentality to plan to be safe, rather than on the visionary edge, had to be overcome. Whilst it has been possible to change culture within the project environment, by far the largest area of resistance has been corporate management embedded in the old ways of working, despite being willing to adapt to change.

Remarks: Even under the self-imposed pressures to achieve vision, the team is unanimous in saying that it is one of the best projects that they have ever worked on.

IT Systems

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Objective:

To provide an efficient two-way link between engineering and cost.

Background:

Many oil and gas contractors in the UK have a philosophy of disconnecting commercial information from engineering information. At estimate stage the mode of working is to complete the design exercise and then cost it. There is often very little in common in terms of how engineering data is structured and how the downstream construction activities are costed. In the procurement cycle there tends to be little or no feedback of costs into the design process. This leads to a limited ability to optimise the engineering within a time period, a lack of appreciation of commercial impact of design decisions and a breed of engineers who lack commercial awareness.

Methodology:

Early in the project, and under the principles of open book accounting, each party in the Alliance defined how their costs were broken down and what factors were the underlying drivers, e.g. tonnage, direct effort, duration, etc. This effectively led to a common activity breakdown structure. All of the engineering systems, i.e. E & I, Piping, Structural and Equipment, databases were configured to reflect both the activity breakdown above and the requisition breakdown - thus providing a direct link to both downstream construction activities and procurement.
Instead of the traditional handover of engineering data to estimating, the estimating data was linked to the engineering systems. This was on a catalogue basis rather than an item basis, so that as quantities changed, total costs were automatically available.

Outcome:

There were several benefits of the above approach:-

- The cycle time between engineering change and estimated cost was significantly reduced.
- It was possible to run a significant number of options over a short period of time by reassembling the engineering definitions.
- Engineering change was able to be incorporated very late into two sanction options.
- Because the engineering structure of the costs was maintained, it was very easy to report costs by any form of breakdown, e.g. activity, requisition, discipline, physical area, etc.
- Engineering had much greater awareness of the commercial impact of their decisions - material savings of more than 10% can be attributed to this increased awareness.
- It has been relatively easy to generate benchmarking information for corporate feedback.

Next Step: CRINE as a whole is attempting to address life cycle measures, benchmarking of performance and, as a result, re-establish engineering commercial awareness. Until the industry agrees a common breakdown structure it is difficult to see how any form of historical database suitable for benchmarking and rapid collation of costs can be achieved. It is not a common system which is required, just common definitions. If a common structure could be agreed, then all of the disparate systems in use by the industry, e.g. engineering, weight reporting, costing, reliability statistics, commissioning and maintenance systems, etc. would at least be able to communicate cleanly.

Resistance: Changing the way that estimating interacted with engineering took a little delicate negotiation. Modifying engineering systems which structured data in a manner compatible with downstream requirements happened in the background, but even then there was some initial reluctance to accept the structure. As the costing was database rather than spreadsheet driven, and some of the more familiar reports were not developed in time, there was some discomfort with the way data was presented.

Remarks: None.

Project

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Objective: To achieve outstanding success

Background: BP Cleeton Project due for completion by 1st October 1996, entails a stand alone platform to be installed in the BP Cleeton Field, Southern North Sea

Methodology: By building on lessons learned on the BP Hyde and BP Andrew Projects the BP Project has taken the Alliance concept a stage further by adopting a gainshare system which links the CAPEX and OPEX phases of the Project

By linking the CAPEX and OPEX phases of the project it is ensured that not only is the Project Team incentivised to deliver outstanding success in the period leading up to first gas but it also continues as the same Alliance for a further two years into the operating life of the field with appropriate risk and reward linked to the performance of the platform

An Alliance of five participating companies was formed on the basis outlined above. The performance of the Alliance is measured against key success factors linking CAPEX and OPEX phases of the project.

Crine Best Practices are actively pursued by the Project Team which measures its performance against seven key factors

Outcome: Currently in the fabrication phase the Cleeton Alliance is already predicting significant savings in capital costs and improvement in completion date

Next Step: To progress the Alliance concept into areas of greater effectiveness by including an increased number of companies participating in the Project Alliance
The ultimate aim would be to have an Alliance which comprises all companies participating in the Project

Resistance: Lack of awareness by companies of the potential of the Alliance way of working

Remarks: MAIN LESSONS LEARNED TO DATE ARE :-

Participation in the Alliance based on equitable risk and reward and ability to influence the result

Single contractual basis for the core team is essential
Creation of an optimal commercial basis is recommended
Accept and use industry developed standards
Fully integrated team working to shared objectives is the aim
Establishing effective relationships takes time and team building workshops are a key part of the process
Maximise use of electrical data transfer among participants
Single Quality Management plan links Alliance Members and places responsibility for inspection on the supplier.