

# **Delivering Energy Projects Predictably**

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## **1 Introduction**

Project delivery systems are those business processes that a firm utilizes to plan, execute and deliver major capital projects. Many energy companies have implemented project delivery systems believing that it will help them deliver projects predictably. For some firms the systems have been successful and they are recognized as a key component in the ability of the organization to meet their commitments to their customers and the investor community.

Other studies have shown that components of a project delivery system support a project in meeting its cost, safety, schedule and quality metrics. These components include robust front end definition, risk management, etc. This paper is unique in that from an executive's point of view it addresses the macro business results achieved by the firm as a result of rapidly implementing a project delivery system.

Due to all of the organizational variables it is often difficult if not impossible to evaluate the effectiveness of a new project delivery system. Key performance indicators will be presented that demonstrate the success of the initiative for all stakeholders. It will also address the impact on the firm's customers as well as the organization.

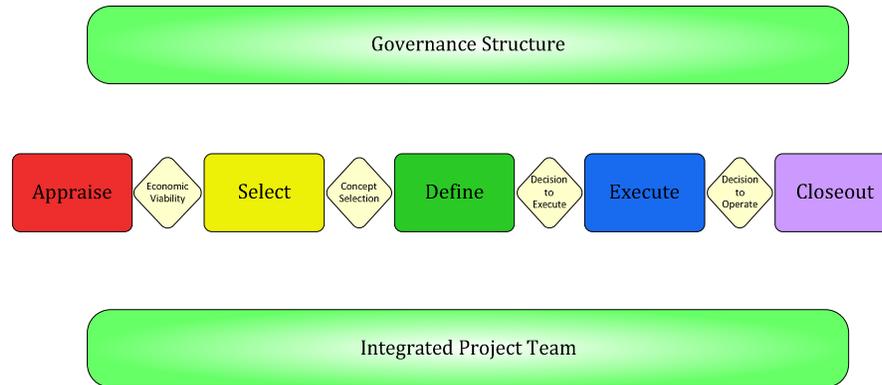
## **2 Background**

A segment of NATCO Group, an engineered equipment oil field supplier, like many of its peers was working in a challenging economic environment. The firm had a robust order backlog, customers were asking for compressed delivery times, qualified personnel were in short supply and suppliers were extending their lead times. As a result of these factors profit margins were under pressure, delivery dates were not always met and the firm was having difficulty hiring and retaining experienced staff.

The firm embarked on implementing a process to manage the proposal phase, engineering, procurement, and fabrication of customized oil field equipment. This segment of NATCO Group builds to order so each piece of equipment is unique. With the assistance of an outside consultant NATCO proceeded to implement a project delivery system that would facilitate the delivery of projects predictability with respect to safety, schedule, quality, customer satisfaction, and cost.

### 3 The Project Delivery System

The figure below illustrates the three main components of a project delivery system. Each of the components is briefly discussed in the sections that follow.



#### **Governance**

A critical part of an effective project delivery system is making timely decisions, supporting the project team and providing oversight of the team.

Effective governance includes management support to ensure project alignment with business objectives, effective project execution strategies, cross - functional issue resolution, and resource availability. Governance addresses the following four key areas:

- ❖ Clear directions and expectations
- ❖ Effective decision making
- ❖ Oversight of the project team planning and execution processes
- ❖ Proper support of the project team in timely, effective issue resolution

#### **Stage Gate Process**

The Stage Gate Process ensures that a project does not move from identified opportunity, to proposal, to Execute and Operate until all of the appropriate steps have been done in the correct sequence. Hence, risk is managed and governance is provided to ensure that the proper resources are applied to support project success. Key components of a Stage Gate Process include the following:

- ❖ Complete description for each phase
- ❖ Key stage activities
- ❖ Milestones
- ❖ Deliverables required for each of the stages such as a project execution plan, risk management plan, contracting strategy, communications plan, etc.
- ❖ Reviews required during each stage and at the end of each phase
- ❖ Decisions to be made at gates or checkpoints

## **Integrated Project Team**

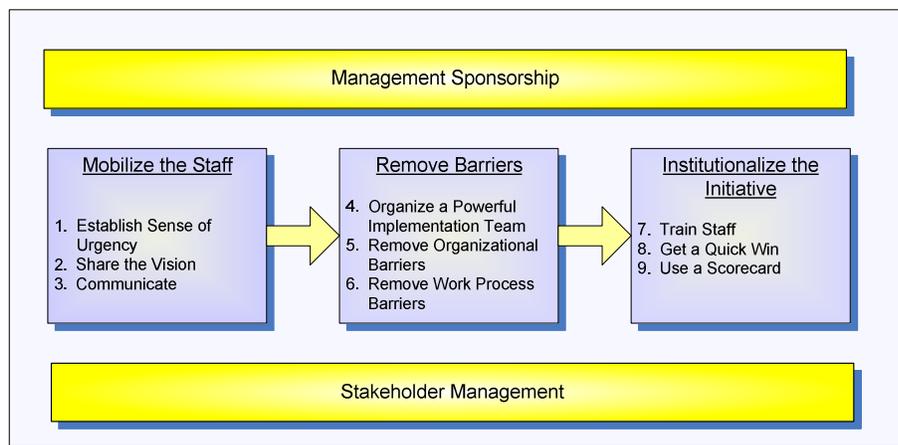
A key concept of an integrated project team is that it is led by one individual, a project manager, who is ultimately responsible for meeting the objectives of the project. This is a simple concept but is often difficult to implement as different functional organizations jockey for position and provide the resources to the Project Manager.

The integrated project team consists of key personnel who provide the leadership and technical expertise for the successful execution of the project. Integrated project team members are assigned from their functional organizations to the team to fulfill the need for functional expertise, planning and execution and may be assigned to the project on either a full-time or part-time basis.

## **4 Methodology**

The development phase of the initiative lasted three months and the implementation phase six months. Implementation was handled through a series of focused meetings and workshops where specific processes and tools were introduced and launched on an immediate go forward basis. Shortly after all of the individual processes were in place the Stage Gate Process was implemented on the entire existing proposal and project portfolio. No rework was expected for projects in process, it was just noted as a deficiency as the project progressed through the new process.

A major challenge for any firm is instituting change quickly and effectively, the larger the organization the greater the challenge. The model below was utilized to effect this rapid change within this segment of Natco Group. A discussion follows of some of the key steps taken by management to ensure a successful transition.



### **Management Sponsorship**

All change must be led from the top and have the full and visible support of management. The CEO and President of Natco Group as well as the segment's Senior Vice President communicated to the organization that this was the most important of all initiatives. This was done via emails, town hall meetings, lunch and learn sessions, etc. The business © NATCO and Westney Consulting Group, 2009 [www.westney.com](http://www.westney.com)

sponsor for the initiative was the segment's Senior Vice President and the initiative was led by the Operational Vice President. Everyone in the segment understood the importance of the initiative to the long term success of the organization and ultimately the individual.

### **Stakeholder Management**

The leadership team implemented a stakeholder management plan as they understood that resistance to change is a key reason that most initiatives fail. Initiative success was included in each of the segment's staff as a performance goal. A special cash bonus plan tied to identifiable business results was implemented. This bonus was to be paid out over a period of 18 months and funded entirely from the business results of the new project delivery system.

### **Powerful Implementation Team**

Change initiatives require lot of energy to overcome the status quo. This energy was provided by an implementation team comprised of all of the leaders of the segment. The team met multiple times per week to capture and address any legacy work processes or organizational barriers. These are barriers caused by the existing system that can delay initiative implementation.

The implementation team reported key development and implementation phase metrics on a weekly basis to the business sponsor, the segment Senior Vice President.

The team realized early in the process that training would be a long term commitment which is ongoing, two years after start of this initiative.

## **5 Business Results**

Natco Group chose to implement a project delivery system as they expected to improve their business results, specifically the following:

- ❖ Gross profit margin
- ❖ On time delivery to the customer
- ❖ Employee satisfaction

The firm chose these metrics as they are easily measurable on a before and after project delivery system implementation basis. The results are discussed below.

At a high level the initiative was successful as evidenced by the fact that ninety percent of all of the allocated funds for the cash bonus plan was paid out to segment staff. These funds were paid in multiple installments based on the organization achieving specific business results such as project gross margin realization and on time delivery.

### **Schedule**

On time delivery increased by 79% for projects that used the new project delivery system. The delivery date is defined as the ship date based on the original purchase order  
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or a fully executed change order; this precludes any potential adjustment to this metric without going through a management of change process.

### **Gross Profit Margin**

During the time period of the evaluation, gross profit margin targets were relatively constant. Gross profit margin for a supplier is equivalent to project capex for an owner company. The methodology in estimating project costs was unchanged but the identification, mitigation and valuation of risk underwent a fundamental change.

As indicated earlier one of the key drivers for the new project delivery system was the inability of the segment to consistently meet customer delivery dates and deliver projects to the gross margin or initial estimated cost.

Nine months after implementation of the project delivery system gross margins expanded by 40% on a consistent basis. The number of projects that met or exceeded their gross margin increased by more than 300% for projects that utilized the new system. Note that target bid margins were the same pre and post implementation of the initiative and the cost estimating methodology did not change. What changed was the effectiveness in project planning, execution and managing risk.

### **Employee Satisfaction**

We have ascertained that the project delivery system met several critical metrics. Critical to the success of the initiative is the perception of Natco staff. For an initiative to succeed, employees need to realize value for themselves as well as the firm and their customers.

Employee surveys taken six months after full implementation yielded the following:

	<b>None</b>	<b>To some extent</b>	<b>To a great extent</b>
To what extent does the new project delivery system facilitate your work	12%	46%	42%

	<b>No</b>	<b>Yes</b>
Does the new project delivery system benefit our clients?	24%	76%
Does the new project delivery system benefit Natco?	19%	81%

Clearly the staff realized the benefit from the project delivery system on an individual basis and also believed that it benefited the customer and the company.

## 6 Summation

Implemented properly a project delivery system can yield quantifiable and sustainable business results. These benefits are enjoyed by the customer, the firm and segment staff.

### References

1. *Leading Change*, John P. Kotter, Harvard Business School Press, 1996

### Authors

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