



Managing with a Manufacturing Mindset

Aspects of Repetitive Manufacturing Used in New Well Development Programs

Introduction:

- Everyone is talking about manufacturing and “Manage by Exception”... what does that mean...how do I achieve that? And if I do, how does that make me a better organization?
 - Hint: It is not a data warehouse.
- What if I told you, if you do it correctly, you could hold your weekly pre-drill meeting in 10 minutes or even eliminate it completely?
 - Our clients do this...

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What I Need:

- **Assembly Line**
 - Institutionalized Process
 - Discrete tasks
 - Task ownership
- **Defined Tasks with Quality**
 - Crosby Quality, Conforming to requirements which continue to evolve
 - Top of cement example
- **Deadlines Based on Task Durations**
 - Process velocity
 - Resource balancing
- **Manage by Exception**
 - Deal only with the problems
 - Flashlight example

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What I Get (With Client Guest AJ Phillips):

- **Efficiency, Transparency & Accountability**
 - Leads to assessment of resources and current business processes
 - Transparency & accountability creates a sense of team amongst the various functions
 - Example Regulatory leader (normally in charge of surveys) noticed site verifications getting behind – coordinated with drilling to align the process
- **Visibility to Gaps in Business Processes**
 - Allows management to identify and correct gaps in current business process that results in better personnel/resource efficiency.
 - New data will arise and what you initially think is optimum will not be the optimum – this facilitates this through data collection, not intuition and opinion
 - Example – Development Planning; Additional personnel

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What I Get (With Client Guest AJ Phillips):

- **Nimbleness**
 - How many of us in here are going to promise that we aren't going to change our minds on rig schedule within 45 days of spud; being data driven results in the need to have a nimble organization and business and system process facilitate this.
 - Catarina acquisition – Purchased large asset from Shell...drilling commitment/rapid integration; able to apply an established process and hit the ground running. We could see what we needed to do to have a seamless transition.
- **Other Benefits**
 - Procurement demand planning – brings better leverage in negotiating with vendors
 - Real-time monthly budgeting and planning – Results in more accurate production & capital forecasting.
 - Accounting Benefits: Capital & Operating Expense Accruals; Accounts Payable workflow – Reduces interruption to engineering resources
 - Other workflows - Post-drill awareness reduces time to market
 - Artificial Lift Workflow– Maximizes production when lift is installed optimally
 - AFE Workflow – Ability to track AFE process and identify/eliminate bottlenecks

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What I Need To Do:

- **Develop or Purchase Software as an Assembly Line**
 - Map and Institutionalized Process
 - Develop Discrete tasks
 - Determine Task ownership
- **Defined Tasks with Quality**
 - Make sure data needed downstream is input by its owners upstream
 - Be ready to alter the workflow constantly
- **Deadlines Based on Task Durations**
 - Determine and Communicate Expected Task Durations
- **Manage by Exception**
 - Software must show all critical milestones in Manage by Exception format
 - Plan better... most issue relate back to poor planning



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