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Redefining Our Industry

Solutions through Collaboration, Innovation and Organization

Who is Minding the Store - **Smaller Projects**



Glenn Macklin
Director, GMP and Pilot Plant Projects
Merck



Gary Berman
President / CEO
GREYHAWK



Mark Buehler
Manager, Aromatics Project
BP



Robert Pinson
V.P. and General Manager
BE&K



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Who is Minding the Store – Small Projects Today's Issues

1. In a world of mega projects, how are we executing the smaller, but very important, capital projects?
2. How do we create effective teams, allocate risk, and apply technology for success?

Today we will explore high potency strategies proven to improve project small project success.



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First Topic

- What are small projects?
 - *How do they differ from mega projects and what makes them special?*
- How are they managed successfully?
- What high potency ideas can we offer you for immediate implementation?



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Smaller Projects

- Up to \$15 Million
- High volume, high frequency
- Duration is usually short
- Not usually in CAPEX program scheme
- Often funded by Operations
- Sometimes come up unexpectedly
- Rarely ever get noticed unless a problem occurs



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Small Projects Are Not:

- Less risky
- Less costly to manage
- Places to put your “B” or “C” teams
- Projects whose problems are less costly and take less time to fix
- Less disruptive to current operations
- Projects that do not compete with mega-projects
 - Time and resources
- Projects that require less owner attention
- Project that do not require a “team” approach
- Less *important* in the overall CAPEX scheme
- Projects that have fewer claims and disputes



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What Should I Expect on Smaller Projects:

- Employee / team turnover
- Agony over too much “large project” reporting
- Firms may not sign your “mega-project” contracts on small projects
- Smaller projects require “more” owner attention and guidance
- Smaller firms entering the market may not be acclimated to the process industry
 - Safety may (will) be an issue
- Challenges



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Challenges Identified

- Alliances: Small projects are continuous and hard work
- Commitment to small project PDP
- Maintaining a reasonable workflow
- Enthusiasm and excitement
 - Prevent burn-out
- Continuous improvement mentality
- Turnover / training



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Next Topic

- What are small projects?
 - How do they differ from mega projects, and what makes them special?
- **How are they managed successfully?**
- What High Potency ideas can you takeaway?



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Core Team Focus

- Provide technical resources needed for small capital projects execution
- Improve overall efficiency of PDP
- Minimize the project cycle time
- Project the most cost effective capital solution
- Develop effective interface with owner plant personnel
- Support through outages



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The Roadmap to Success

- Embrace the small project delivery process
- Establish a true owner/engineer team
- Commitment to a continuous improvement process
- Owners need to plan work and share with team
- Provide continuous work load for core
- Develop team metrics



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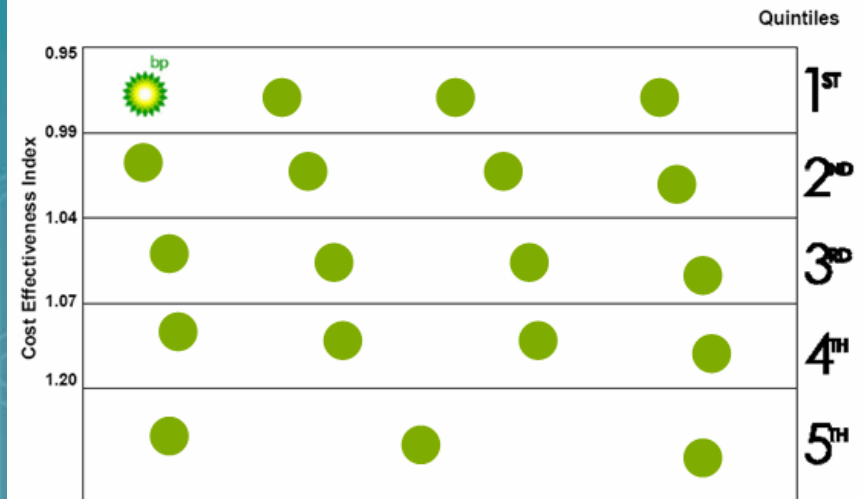
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BP's <\$10 million System - The Industries' Benchmark

- Overall 'Best-In-Class System' for small projects
- One site achieved an Industry leading capital Project System, recognized as the 'Best-In-Class Site' by IPA in 2007
- BP have had the 'Best-In-Class Site' for the last 5 years:
 - Several of BP's sites are world class leaders
 - Most BP sites show significant improvement in drivers and performance over time.
 - 9 sites in are Top Quintile Cost Performers

Cost Effectiveness



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Best-In-Class Systems of IBC 2007

- The following company was identified as having the **Best-In-Class System** for small projects:
 - bp
- The following company was identified as having the **Best-In-Class Site** for small projects:
 - bp 4
- The following sites were identified as the **Most Improved** sites for small projects



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Refining & Marketing Segment

BP Group

Framework

Project Principles

CVP High Level

CVP Detail Level & MCOS

HSSE

Technology & Technical Definition
Project Execution Planning

Contracting & Supplier Management
Project Services

Organisational Capability

Commissioning & Operational Readiness
Performance & Risk Management

Knowledge Management
Projects & TAR Interface

Engineering & Quality
Opportunity Characterisation

R&M Specific Tools, Examples, Templates, Job Aids

BP & Industry Specific Tools, Examples, Templates, Job Aids

**R&M
Projects
Common
Process**



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Capital Value Process: Fundamentals



Front End Loading

- Projects are divided into stages, each corresponding to a key decision point. (* For subsurface projects an initial ACCESS stage applies)
- Key roles of Gatekeeper and SPA (Single Point Accountability) in place
- Each stage has a Gate that must be passed, which forces the Gatekeeper and the project team to make appropriate decisions.
- These decisions, the rationale behind them, and any uncertainties are captured in a Decision Support Package (DSP).
- The activities required within each stage are necessary to develop information required for the DSP.
- Successful implementation requires appropriate supporting behaviors (e.g. effective cross-functional teams generating constructive challenge).
- A process that has the flexibility for the content to vary according to project size and complexity.
- Assurance provides confidence that projects will deliver distinctive business results (benchmarking, peer reviews, etc.).



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Refining & Marketing Segment: PM Functional Governance

	Project Manager	Site / BU / Region Project Assurance	Project Advisor	R&M HoP	TVP Projects & Engineering	Group Director of Projects
less than \$10M	Submits DSP	Approves	Informed	Informed	No role	No role
\$10M to \$100M	Submits DSP and Scorecard	Consults	Approves	Informed	Informed	No role
greater than \$100M	Submits DSP and Scorecard	Informed	Approves	Approves	Informed	Approves



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Takeaways - Best Practices

- **Tested model that works:**
 - Core team for each client
 - Flexibility in staffing
 - Senior process staff as needed
 - Site orientation where possible
 - Gated process (FEL modified)
 - Streamline delivery process
 - Hard work
 - Standardization



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Takeaways - Best Practices

- Standardize your approach for your small projects group
 - Standing Core Team
 - Owner's PM, A/E, CM, Operations
 - Client's team depends on the business unit
 - Standardized FEL
 - Pre-charter → Kick off → Initial Funding → BOD, PEP, CPM
 - Schedule → Final Estimate
- Regular Portfolio Oversight
 - Review upcoming projects / resource requirements
 - Review schedule logic - resolve issues quickly
 - Review cost forecasts
 - Address open Client concerns as they occur
- Keep "The Business" informed on progress
 - Focus on business driven realization goals



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Continuous Improvement Opportunities

- Unlike large projects, cycle times and frequency allows experimentation
- Frequency allows for better historical metrics to develop predictable patterns
- “Lessons learned” can be implemented quicker, effecting more people / projects / / companies
- Repetitive work reinforces administrative work processes



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Continuous Improvement...(cont'd)

- Eliminate waste activities – those that add no value and raise cost
 - Rework
 - Use your experienced PMs to assess risk
 - Overproduction
 - Plan to Plan – Scale all FEL / Design deliverables
 - Bundle smaller projects to decrease “smaller” efforts
 - Use generic schedule logic – adjust durations
 - Unnecessary Waiting
 - Eliminate bid cycles with early collaboration and and “open-book” approach
 - Pre-schedule “Stage Gate” review meetings
 - Use CPM as a visual control mechanism
 - Unnecessary Motion or Processing
 - Establish repeatable processes



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Takeaways - Best Practices

- Program Management Efficiency
 - Link projects (type, location, risk, technology...)
 - Outsource “program” management
 - Maintain integrated team approach
 - Establish and keep your “core” team together
- Change your form of project delivery / contracting strategy
- Examine your risk-sharing model
- Standardize web-based reporting
- Determine “trigger metrics” for all small projects
 - Level 1 – concern (on the radar screen)
 - Level 2 – take action



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Any Questions?



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