



NATURAL GAS MID-STREAM PROJECTS

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Welcome to the PMI Houston Conference & Expo and Annual Job Fair 2015

- Please put your phone on silent mode
- Q&A will be taken at the close of this presentation
- There will be time at the end of this presentation for you to take a few moments to complete the session survey. We value your feedback which allows us to improve this annual event.



NATURAL GAS MID-STREAM PROJECTS

Types of Natural Gas Mid-Stream Projects

- Pipelines
- Compressor and Pump Stations
- Meter Stations (Interconnects)



NATURAL GAS MID-STREAM PROJECTS

Pipeline Projects





NATURAL GAS MID-STREAM PROJECTS

Pipeline Projects

- 2-3 Year Projects
- Highly Regulated – 12+ month FERC approval
- Environmental Requirements
- Landowner Issues
- Public Perception
- Available and Qualified Contractors
- Material – Pipe - Availability



NATURAL GAS MID-STREAM PROJECTS

Compressor Stations





NATURAL GAS MID-STREAM PROJECTS

Compressor Station

- 2 Year Projects
- Highly Regulated – 12+ month FERC approval cycle
- Environmental Requirements
- Landowner Issues
- Commercial Power and Utilities
- Competent Engineering Talent
- Available and Qualified Contractors
- Engineered Equipment – Long Lead Times



NATURAL GAS MID-STREAM PROJECTS

Meter Stations





NATURAL GAS MID-STREAM PROJECTS

Meter Stations

- 1 Year Projects
- Interconnect Agreements – ownership, operations, custody
- Regulatory – typically less stringent
- Environmental – often CATEX/blanket
- Land Acquisition
- Engineered Equipment – Long Lead Times and Calibration



NATURAL GAS MID-STREAM PROJECTS

Common Characteristics

- Fast Paced
- Many Deliverable
- Failure is not an Option !



NATURAL GAS MID-STREAM PROJECTS





NATURAL GAS MID-STREAM PROJECTS

Why Projects Fail

- Market Conditions
- Customer Issues
- Not because they go over budget!
- Not because they fall behind schedule!



Project Phases

- Conceptual
- Scope Development and Estimating
- FEED Studies (Preliminary Engineering)
- Detail Engineering
- Procurement
- Construction
- Close-out

Typical PM Responsibilities and Deliverables

- Project execution Plan (PEP)
- Design Basis Memorandum (DBM)
- FEED Studies
- Schedules
- President/Interconnect Agreements
- Project Schedules

Reports

- Management – Weekly
- Construction - Daily
- Regulatory - Weekly
- Cost - Monthly
- Procurement - Monthly
- Commissioning - Daily

Typical PM Responsibilities and Deliverables – Cont.

- Land Owner Agreements
- Encroachment and Crossing Agreements
- Power and Utility Agreements

Meeting Agendas and Minutes

- Team Meetings
- Customer Meetings
- Contractor Meetings
- Vendor Meetings
- Public Meetings (Open Houses)
- Management and Stake Holder

Typical PM Responsibilities and Deliverables – Cont.

Regulatory Applications/Filings

- FERC
- State Permits
- Local Permits
- Utility Applications

Surveys

- Land Surveys
- Noise Surveys
- Endangered Species Surveys
- Wetland Surveys

Environmental Permitting

- State Historical (SHPO)
- US Fish and Wildlife
- Army Corps of Engineers
- Coastal Zone Management
- State Agencies

Typical PM Responsibilities and Deliverables – Cont.

- Engineering Scope of Work
- Engineering Schedule
- Engineering Contracts

Engineering Deliverables

- Property Plats
- Alignment Sheets
- Grading and Drainage Plans
- Mechanical and Piping Plans
- Foundation Plans
- Electrical Plans
- Instrument Plans
- Major Equipment Lists
- Line Lists
- Valve Lists
- Equipment Data Sheets
- Instrument Data Sheets

More Engineering Deliverables

- Detail Sheets
- Pipe Calculations
- Electrical Load Lists
- Panel and J-box Layouts
- One-Line Diagrams
- Area Classifications Plans and Details
- Loading and Lifting Plans
- Pipe Stress Calculations
- Pulsation Studies
- Hydro-test Plans
- Etc.

Typical PM Responsibilities and Deliverables – Cont.

- Purchase Specifications
 - Purchase Requisitions
 - Bid Tabs
 - Purchase Orders
 - Inspection and Test Procedures (ITP)
 - Factory Acceptance Testing (ITP)
-
- Construction Scope of Work
 - Construction Contracts
 - Construction Contracts
 - Safety Plans
 - Spill Prevention Plans
 - Management Plans/Contracts
 - Inspection Plan/Contracts
 - Requests for Information (RFI)
 - Change Order
-
- Material Coordination
 - Commissioning Plans
 - Asbuilt Drawings
 - Job Books
 - Completion Reports
 - Project Close-out
 - Post Construction Survey



Challenges for the Project Manager

- Responsible for ALL Deliverables
- No Direct Reports – No Delegation
- Limited DOA for Budget
- Reports



Project Manager – Soft Skills

- Organized
- Detail Oriented
- Good Communicator
- Collaborative
- Thick-Skinned
- Jack of All Trades



Project Manager – Soft Skills – Cont.

How to Influence Others with NO Authority?

Use Your Kindergarten Skills!!



Project Manager – Soft Skills – Cont.

Kindergarten Skills ([www. Leapfrog.com](http://www.Leapfrog.com))

- Be Nice
- Remember People's Names
- Talk in Sentences
- Express Ideas so Others can Understand
- Listen and Pay Attention
- Ask Questions
- Use Words to Solve Problems and Conflicts
- Follow Directions



Kindergarten Skills - Continued

- Show Interest
- Ask for Help
- Say Please and Thank You
- Interact Appropriately with Other
- Share and Take Turns
- Be Creative
- Distinguish Numbers from Letters
- Understand the Effects of Addition and Subtraction



Project Manager – Soft Skills – Cont.

- Develop Relationships
- Engage Team Members
- Foster a Team Concept
- Celebrate Success



Managing Project Risk

- Monte Carlo – other risk modeling software
- Lessons Learned
 - Data Base
 - Personal Experiences
- Collaboration and Inclusion
 - Technical Resources
 - Peers
 - Operators
- Review of Deliverables



Managing Project Risk – Cont.

Bring the **KNOWN UNKNOWN** in to the **KNOWN**

- Real Material Deliveries
- Budget Estimates into Real Costs

Risk May be Less Early On

Events Can Quickly Spiral Out of Control!!

Keep and Maintain a Risk Log!



Managing Project Risk – Cont.

BAD STRATEGIES

HOPE

AVOIDING BAD NEWS

TEAM WORK (Someone Else Will Handle It!)



ESSENCIAL TOOLS TO MANAGE PROJECTS

TOP 3

- 1. Project Execution Plan**
- 2. Project Schedule**
- 3. Check List**



ESSENCIAL TOOLS TO MANAGE PROJECTS

Project Execution Plan

Who, What, Where and When; and How Much

- **Defines the Project Scope**
- **Who Does What (Besides the PM)**
- **Schedule and Budget**
- **Strategies**



ESSENCIAL TOOLS TO MANAGE PROJECTS

Project Schedule

- **Critical Milestone Dates**
- **Lists the Tasks**
- **Shows Duration and Due Dates**
- **Needs to be Realistic**
- **Updated Frequently**



ESSENCIAL TOOLS TO MANAGE PROJECTS

Check List

- **List ALL Tasks and Deliverables**
- **Daily Work Activities**
- **Priorities**
- **Notes and Reminders**
- **Templet for the Next Project**

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Thank You